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Supplementary appendix

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Evolving epidemiology and transmission dynamics of coronavirus disease 2019 outside Hubei province, China: a descriptive and modelling study

Supplementary Appendix

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Case definition and surveillance

Case definition

Since the start of the outbreak of novel coronavirus disease COVID-19, five versions of the suspected case definition have been used in China. In the first version of the “Guidelines on diagnosis and treatment of novel coronavirus infected pneumonia (NCIP) patients” issued by China CDC¹, a suspected NCIP case was defined as a case with pneumonia who fulfilled the following clinical criteria (fever; radiographic evidence of pneumonia; low or normal white-cell count or low lymphocyte count; and no symptomatic improvement or deterioration after 3 days of antibiotics treatment) and had an epidemiologic link to the Huanan Seafood Wholesale Market in Wuhan or a history of travel to Wuhan within 14 days of symptom onset.

A second version was issued on January 18, 2020 to fasten the identification of cases, where one of the clinical criteria was eliminated (no symptomatic improvement or deterioration after 3 days of antibiotics treatment). The epidemiological link was revised as well to include travel history to Wuhan, direct contact with patients from Wuhan who had fever or respiratory symptoms within 14 days of symptom onset, or be part of a cluster¹.

The definition of suspected cases remained unchanged in the third revision of the guidelines issued on January 22¹. In the fourth revision issued on January 27, the clinical criteria was broadened to meet any two of the three conditions included in the previous two versions. In addition, a known link to a laboratory-confirmed case of COVID-19 was added as part of the epidemiological criteria¹.

In the fifth revision issued on February 4, a clinical definition of COVID-19 cases was added and based on suspected cases with radiographic findings of pneumonia; this was only used in Hubei province². For provinces outside Hubei, the criteria were loosened to include any of the epidemiological history (clustered onset or epidemiological association with a confirmed COVID-19 case were now considered as two separate items) and the patient had to meet 2 or more clinical manifestations (with fever being revised as fever and/or respiratory symptoms) or if the patient had no epidemiological history and met all of the clinical manifestations.

A laboratory confirmed case was defined as a suspected case with respiratory specimens testing positive for the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Positivity was based on presence of (i) a genetic sequence that matched SARS-CoV-2 (first revision) or (ii) a real-time reverse-transcription-polymerase-chain-reaction (RT-PCR) assay for SARS-CoV-2 (second and third revision)¹. The definition was expanded to include positive RT-PCR results from blood samples in the fourth revision¹. In Hubei province in the fifth revision, confirmed cases included clinically-diagnosed cases and suspected cases with laboratory results.

Active case surveillance

Details of the surveillance procedure for case identification has been described by Li et al.³ and is briefly summarized here. The earliest cases were identified by the national surveillance system for “pneumonia of unknown etiology”, which is defined as an illness without identified causative pathogen that fulfills the following criteria: fever ($\geq 38^{\circ}\text{C}$), radiographic evidence of pneumonia, low or normal white-cell count or low lymphocyte count, and no symptomatic improvement after antimicrobial treatment for 3-5 days following standard clinical guidelines⁴. In response to a cluster of viral pneumonia of unknown etiology reported in Wuhan, Hubei province, a tailored surveillance protocol was defined to identify potential cases on January 3, 2020, using the first version of COVID-19 case definition³. Case definition was updated when a new version of the “Guidelines on diagnosis and treatment of novel coronavirus infected pneumonia (NCIP) patients” was issued. National, provincial and municipal joint investigation teams were assembled to conduct field investigations and implement control and prevention measures. Detailed field investigations were conducted to collect standardized information on dates of symptom onset, exposure history for the 2 weeks prior to symptom onset, visits to health facilities, hospitalizations, and clinical outcomes. Respiratory specimens were collected for laboratory

testing by real-time RT-PCR or genetic sequencing. All suspected cases and laboratory-confirmed cases of COVID-19 were reported to the China CDC through a national surveillance system within 2 hours after NCIP became a notifiable disease on January 20⁵.

In response to the COVID-19 outbreak, a field epidemiological investigation protocol was developed by the Chinese Center for Disease Control and Prevention (China CDCs) to identify potential COVID-19 cases⁶. Once a confirmed or suspected case was identified, the municipal and county-level CDCs initiated a detailed field investigation. All suspected cases were interviewed by the staffs of the local CDC using standardized forms that comprised detailed demographic information (e.g., age and sex), frequency and patterns of exposure history (e.g., residence in or travel to epidemic regions, history of contacts with other individuals with similar symptoms), timeline of events, and households and locations visited in the 2 weeks before the onset of illness. Moreover, all close contacts of these suspected cases were identified and placed under daily medical observation and interviewed by telephone or in person.

Close contacts were defined as individuals who reported face-to-face contacts within 1 meter of the identified confirmed or suspected cases, including family members, relatives, friends, coworkers, classmates, and healthcare workers who diagnosed, treated, and nursed the case prior to diagnosis. To identify potential clusters of COVID-19, local CDCs initiated field investigations focusing on individuals who were close contacts of previously known COVID-19 cases. Among these individuals, detailed information on the frequency, timing, pattern and location of exposures to previously known cases within the two weeks before the onset of illness was recorded. Persons who resided in or traveled to epidemic regions (e.g., Wuhan and other cities in Hubei Province) or those with febrile or respiratory illnesses were also placed under daily medical observation and interviewed through community-based active case finding.

Once the field investigation was completed, local authorities released all epidemiological data obtained through the process (including demographic characteristics, exposure history, timeline of key events, and close contact identification) via the official websites of local authorities or the websites of local government-affiliated medias. We used a standardized form (Table S2) to collect individual information from these websites.

Tab. S1 lists the sources used to extract individual case information and daily aggregated data.

Data source for individual and aggregated data

Tab. S1 lists the sources used to extract individual and aggregated data.

Table S1. Data sources for individual case information and aggregated data on COVID-19.

Type of data sources	Main sources for extracting individual and daily aggregated data
Type I: Websites of national, provincial, municipal and autonomous regional Health Commission	1. National Health Commission of the People's Republic of China (http://www.nhc.gov.cn) 2. Health Commission of Hubei Province (http://wjw.hubei.gov.cn) 3. Health Commission of Zhejiang Province (http://www.zjwjw.gov.cn) 4. Health Commission of Guangdong Province (http://wsjkw.gd.gov.cn) 5. Health Commission of Henan Province (http://www.hnwsjsw.gov.cn) 6. Health Commission of Hunan Province (http://wjw.hunan.gov.cn) 7. Health Commission of Anhui Province (http://wjw.ah.gov.cn) 8. Health Commission of Jiangxi Province (http://hc.jiangxi.gov.cn) 9. Health Commission of Fujian Province (http://wjw.fujian.gov.cn) 10. Health Commission of Shandong Province (http://wsjkw.shandong.gov.cn) 11. Health Commission of Shaanxi Province (http://sxwjw.shaanxi.gov.cn/) 12. Health Commission of Hebei Province (http://www.hebwst.gov.cn) 13. Health Commission of Qinghai Province (https://wsjkw.qinghai.gov.cn/) 14. Health Commission of Hainan Province (http://wst.hainan.gov.cn/swjw/index.html) 15. Health Commission of Guizhou Province (http://www.gzhfpc.gov.cn/) 16. Health Commission of Heilongjiang Province (http://wsjkw.hlj.gov.cn/) 17. Health Commission of Jilin Province (http://wsjkw.jl.gov.cn/)

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18. Health Commission of Jiangsu Province (<http://wjw.jiangsu.gov.cn/>)
19. Health Commission of Gansu Province (<http://wsjk.gansu.gov.cn>)
20. Health Commission of Liaoning Province (<http://wsjk.ln.gov.cn/>)
21. Health Commission of Sichuan Province (<http://wsjkw.sc.gov.cn>)
22. Health Commission of Shanxi Province (<http://wjw.shanxi.gov.cn>)
23. Health Commission of Yunnan Province (<http://ynswsjkw.yn.gov.cn>)
24. Health Commission of Ningxia Hui Autonomous Region (<http://wsjkw.nx.gov.cn>)
25. Health Commission of Inner Mongolia autonomous region (<http://wjw.nmg.gov.cn>)
26. Health Commission of Guangxi Zhuang Autonomous Region (<http://wsjkw.gxzf.gov.cn>)
27. Health Commission of Xinjiang Uygur Autonomous Region (<http://www.xjhfpc.gov.cn>)
28. Health Commission of Tibet Autonomous Region(<http://wjw.xizang.gov.cn>)
29. Chongqing Municipal Health Commission (<http://wsjkw.cq.gov.cn>)
30. Shanghai Municipal Health Commission (<http://wsjkw.sh.gov.cn>)
31. Beijing Municipal Health Commission (<http://wjw.beijing.gov.cn>)
32. Tianjin Municipal Health Commission (<http://wsjk.tj.gov.cn>)
33. Anqing Municipal Health Commission (<http://wjw.anqing.gov.cn>)
34. Bengbu Municipal Health Commission (<http://wjw.bengbu.gov.cn>)
35. Bozhou Municipal Health Commission (<http://wjw.bozhou.gov.cn>)
36. Chizhou Municipal Health Commission (<http://wjw.chizhou.gov.cn>)
37. Chuzhou Municipal Health Commission (<http://wjw.chuzhou.gov.cn>)
38. Fuyang Municipal Health Commission (<http://wjw.fy.gov.cn>)
39. Hefei Municipal Health Commission (<http://wjw.hefei.gov.cn>)
40. Huabei Municipal Health Commission (<http://wjw.huaibeい.gov.cn>)
41. Huainan Municipal Health Commission (<http://wjw.huainan.gov.cn>)
42. Huangshan Municipal Health Commission (<http://wjw.huangshan.gov.cn>)
43. Lu'an Municipal Health Commission (<http://wjw.luan.gov.cn>)
44. Maanshan Municipal Health Commission (<http://wjw.mas.gov.cn>)
45. Tongling Municipal Health Commission (<http://wsjkw.tl.gov.cn>)
46. Wuhu Municipal Health Commission (<http://wsjkw.wuhu.gov.cn>)
47. Xuancheng Municipal Health Commission (<http://wjw.xuancheng.gov.cn>)
48. Longyan Municipal Health Commission (<http://wjw.longyan.gov.cn>)
49. Nanping Municipal Health Commission (<http://wjw.np.gov.cn>)
50. Ningde Municipal Health Commission (<http://wjw.ningde.gov.cn>)
51. Quanzhou Municipal Health Commission (<http://health.quanzhou.gov.cn>)
52. Sanming Municipal Health Commission (<http://wjw.sm.gov.cn>)
53. Xiamen Municipal Health Commission (<http://hfpc.xm.gov.cn>)
54. Zhangzhou Municipal Health Commission (<http://www.zhangzhou.gov.cn/cms/html/zssrmzf/swjw/index.html>)
55. Baiyin Municipal Health Commission (<http://wjw.baiyin.gov.cn>)
56. Health Commission of Gannan Tibetan Autonomous Prefecture (<http://wsjk.gnzmzf.gov.cn>)
57. Jinchang Municipal Health Commission (<http://wjw.jcs.gov.cn>)
58. Jiayuguan Municipal Health Commission (<http://wjw.jyg.gov.cn>)
59. Jiuquan Municipal Health Commission (<http://wjw.jiuquan.gov.cn>)
60. Lanzhou Municipal Health Commission (<http://wjw.lanzhou.gov.cn>)
61. Health Commission of Linxia Hui Autonomous Prefecture
(<http://www.linxia.gov.cn/Article/ArticleList?Channel=0034>)
62. Longnan Municipal Health Commission
(<http://www.longnan.gov.cn/public/column/4455597?type=4&action=list>)
63. Dingxi Municipal Health Commission (<http://wjw.dingxi.gov.cn>)
64. Longxi County Health Commission (<http://www.cnlongxi.gov.cn>)
65. Tongwei County Health Commission (<http://www.tongwei.gov.cn>)
66. Pingliang Municipal Health Commission (<http://wjw.pingliang.gov.cn>)
67. Qingshui County Health Commission (<http://www.tsqs.gov.cn>)
68. Tianshui Municipal Health Commission (<http://www.tianshui.gov.cn/col/col351/index.html>)
69. Qingshui County Health Commission (<https://www.tsqs.gov.cn>)
70. Wuchang Municipal Health Commission (<http://www.gswuwei.gov.cn>)
71. Zhangye Municipal Health Commission (<http://www.zhangye.gov.cn/wjw>)
72. Chaozhou Municipal Health Commission (<http://www.chaozhou.gov.cn/zwgk/szfgz/swsjhsy/index.html>)
73. Dongguan Municipal Health Bureau (<http://dghb.dg.gov.cn>)
74. Foshan Municipal Health Bureau (<http://wjj.foshan.gov.cn>)
75. Guangzhou Municipal Health Commission (<http://wjw.gz.gov.cn>)
76. Huizhou Municipal Health Bureau (http://bsdt.huizhou.gov.cn/pages/cms/hzwsj/html/deptWsbs_index.html)
77. Jiangmen Municipal Health Bureau (<http://www.jiangmen.gov.cn/bmpd/jmswsjkj/>)
78. Jieyang Municipal Health Bureau (<http://www.jieyang.gov.cn/jywjj/>)
79. Maoming Municipal Health Bureau (<http://wsjsj.maoming.gov.cn>)
80. Meizhou Municipal Health Bureau (<http://www.gdmx.gov.cn/mzmxwsj/gkmpl/index>)
81. Qingyuan Municipal Health Bureau (<http://www.gdqy.gov.cn/channel/qyswsjkj/>)
82. Shantou Municipal Health Bureau (<https://www.shantou.gov.cn/wjj/>)
83. Shanwei Municipal Health Bureau (<http://www.shanwei.gov.cn/swwj/>)
84. Shaoguan Municipal Health Bureau (<http://wsjk.sg.gov.cn>)
85. Shenzhen Municipal Health Commission (<http://wjw.sz.gov.cn>)
86. Yangjiang Municipal Health Bureau (<http://www.yangjiang.gov.cn/yjwsj/gkmpl/mindex>)
87. Zhanjiang Municipal Health Bureau (<https://www.zhanjiang.gov.cn/bmzz/zjswsjkj/index.html>)
88. Zhaoqing Municipal Health Bureau (<http://wjj.zq.gov.cn/index.html>)
89. Zhongshan Municipal Health Bureau (<http://wjj.zs.gov.cn/index.html>)
90. Zhuhai Municipal Health Bureau (<http://wsjk.zhuhai.gov.cn>)
91. Baise Municipal Health Commission (<http://www.baise.gov.cn>)
92. Beihai Municipal Health Commission (<http://xxgk.beihai.gov.cn/bhswshjhsywyh/#.airline>)
93. Fangchenggang Municipal Health Commission (<http://www.fcgs.gov.cn/wjw/>)
94. Guilin Municipal Health Commission (<http://wjw.guilin.gov.cn>)
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95. Hechi Municipal Health Commission (<http://wjw.hechi.gov.cn/>)
96. Hezhou Municipal Health Commission (<http://www.gxhz.gov.cn/>)
97. Liuzhou Municipal Health Commission (<http://wjw.liuzhou.gov.cn/>)
98. Nanning Municipal Health Commission (<http://wjw.nanning.gov.cn/>)
99. Qinzhoushi Municipal Health Commission (<http://zwgk.qinzhoushi.gov.cn/auto2540/>)
100. Wuzhou Municipal Health Commission (<http://wjw.wuzhou.gov.cn/>)
101. Anshun Municipal Health Bureau (<http://wjw.anshun.gov.cn/>)
102. Bijie Municipal Health Bureau (<http://www.bijie.gov.cn/bm/bjswsjkj/index.shtml>)
103. Guiyang Municipal Health Bureau (<http://wsjkj.guiyang.gov.cn/>)
104. Liupanshui Municipal Health Bureau (<http://swjj.gzlps.gov.cn/>)
105. Health Bureau of Qiandongnan Miao and Dong Autonomous Prefecture (<http://wsjsw.qdn.gov.cn/>)
106. Health Bureau of Qiannan Buyi and Miao Autonomous Prefecture (<http://wsjkj.qiannan.gov.cn/>)
107. Health Bureau of Southwest Guizhou Autonomous Prefecture
(http://www.qxn.gov.cn/zwgk/zfjg/zwsjkj_5135241/bmxgkml_5135244/)
108. Tongren Municipal Health Bureau (<http://wjw.trs.gov.cn/>)
109. Zunyi Municipal Health Bureau (<http://wsjkj.zunyi.gov.cn/>)
110. Baoting County Health Commission (<http://baoting.hainan.gov.cn/baoting/zt/yqfk/index.html>)
111. Health Commission of Changjiang Li Autonomous County (<http://changjiang.hainan.gov.cn/>)
112. Chengmai County Health Commission (<http://chengmai.hainan.gov.cn/>)
113. Danzhou Municipal Health Commission (<http://www.danzhou.gov.cn/danzhou/index.html>)
114. Dingan County Health Commission (<http://dingan.hainan.gov.cn/dingan/>)
115. Dongfang County Health Commission (<http://dongfang.hainan.gov.cn/index.html>)
116. Haikou Municipal Health Commission (<http://wjw.haikou.gov.cn/>)
117. Health Commission of Ledong li autonomous County(<http://ledong.hainan.gov.cn/>)
118. Lingao County Health Commission (<http://lingao.hainan.gov.cn/>)
119. Lingshui County Health Commission (<http://lingshui.hainan.gov.cn/>)
120. Qionghai County Health Commission (<http://qionghai.hainan.gov.cn/>)
121. Qiongzhong County Health Commission (<http://qiongzhong.hainan.gov.cn/>)
122. Sanya Municipal Health Commission (<http://ws.sanya.gov.cn/>)
123. Wanning Municipal Health Commission (<http://wanning.hainan.gov.cn/wanning/index.html>)
124. Wenchang Municipal Health Commission (<http://wenchang.hainan.gov.cn/wcswhsjhsywyh/webindex.shtml>)
125. Baoding Municipal Health Commission (<http://www.bdswjw.gov.cn/>)
126. Cangzhou Municipal Health Commission (<http://www.cangzhou.gov.cn/>)
127. Chengde Municipal Health Commission (<http://wjw.chengde.gov.cn/>)
128. Handan Municipal Health Commission (<http://wjw.hd.gov.cn/>)
129. Hengshui Municipal Health Commission (<http://wjw.hengshui.gov.cn/>)
130. Langfang Municipal Health Commission (<http://wjw.lf.gov.cn/html/index.html>)
131. Qinhuangdao Municipal Health Commission (<http://wjw.qhd.gov.cn/>)
132. Shijiazhuang Municipal Health Commission (<http://wsjk.sjz.gov.cn/>)
133. Tangshan Municipal Health Commission (<http://wsjkwyh.tangshan.gov.cn/>)
134. Xingtai Municipal Health Commission (<http://wsjkw.xingtai.gov.cn/>)
135. Zhangjiakou Municipal Health Commission (<http://wjw.zjk.gov.cn/index.do?templet=index>)
136. Daqing Municipal Health Commission (<http://www.daqing.gov.cn/>)
137. Harbin Municipal Health Commission (<http://www.harbin.gov.cn/>)
138. Hegang Municipal Health Commission (<http://www.hegang.gov.cn/>)
139. Jixi Municipal Health Commission (<http://www.jixi.gov.cn/>)
140. Mudanjiang Municipal Health Commission (http://www.mdj.gov.cn/index_53.html)
141. Qitaihe Municipal Health Commission (<http://www.qth.gov.cn/xxsbxt/sxdw/wsjaxx/>)
142. Shuangyashan Municipal Health Commission
(<http://www.shuangyashan.gov.cn/index/html/bm/wsj/indexwjw.jsp>)
143. Suihua Municipal Health Commission (<http://www.suihua.gov.cn/pages/website/index.html>)
144. Anyang Municipal Health Commission (<http://aywjw.anyang.gov.cn/>)
145. Health and Family Planning Commission of Dengzhou (<http://dengzhou.gov.cn/wjw/index.htm>)
146. Gongyi Municipal Health Commission
(http://www.gongyishi.gov.cn/portal/gyzx/ztzl/xgyflk/A01021745index_1.htm)
147. Hebi Municipal Health Commission (<https://wsjkw.hebi.gov.cn/>)
148. Jiyuan Municipal Health Commission (<http://wjw.jiyuan.gov.cn/>)
149. Jiaozuo Municipal Health Commission (<http://www.jzswjw.gov.cn/>)
150. Kaifeng Municipal Health Commission (<http://www.kfwswjw.gov.cn/>)
151. Luohe Municipal Health Commission (<http://www.lhswjw.gov.cn/>)
152. Luoyang Municipal Health Commission (<http://www.lyws.gov.cn/>)
153. Nanyang Municipal Health Commission (<http://nyws.nanyang.gov.cn/>)
154. Pingdingshan Municipal Health Commission (<http://www.pdswsjw.gov.cn/>)
155. Sanmenxia Municipal Health Commission (<http://wjw.smx.gov.cn/>)
156. Shangqiu Municipal Health Commission (<http://www.shangqiu.gov.cn/>)
157. Xinxiang Municipal Health Commission (<http://www.xxswjw.gov.cn/>)
158. Xinyang Municipal Health Commission (<http://www.hnxywjw.gov.cn/>)
159. Xuchang Municipal Health Commission (<http://xcswjw.xuchang.gov.cn/ztl/secondpage.html>)
160. Zhengzhou Municipal Health Commission (<http://wjw.zhengzhou.gov.cn/>)
161. Zhoukou Municipal Health Commission (<http://www.zkwjw.gov.cn/>)
162. Zhumadian Municipal Health Sports Commission (<http://www.zmdwsj.gov.cn/>)
163. Anlu Municipal Health Commission (<http://www.anlu.gov.cn/>)
164. Hanchuan Municipal Health Commission (<http://www.hanchuan.gov.cn/>)
165. Huanggang Municipal Health Commission (<http://wjw.hg.gov.cn/>)
166. Huangshi Municipal Health Commission (<http://wjw.huangshi.gov.cn/>)
167. Jingzhou Municipal Health Commission (<http://wjw.jingzhou.gov.cn/>)
168. Shiyan Municipal Health Commission (<http://wjw.shiyan.gov.cn/>)
169. Tianmen Municipal Health Commission (<http://www.tianmen.gov.cn/>)
170. Wuhan Municipal Health Commission (<http://wjw.wuhan.gov.cn/>)
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171. Xiangyang Municipal Health Commission (<http://wjw.xiangyang.gov.cn/>)
172. Xianning Municipal Health Commission (<http://wjw.xianning.gov.cn/>)
173. Xiaogan Municipal Health Commission (<http://wjw.xiaogan.gov.cn/>)
174. Yichang Municipal Health Commission (<http://wjw.yichang.gov.cn/>)
175. Changsha Municipal Health Commission (<http://wsjkw.changsha.gov.cn/>)
176. Chenzhou Municipal Health Commission (<http://wsjsw.czsw.gov.cn/>)
177. Hengyang Municipal Health Commission (<http://wjw.hengyang.gov.cn/>)
178. Huaihua Municipal Health Commission (<http://letter.huaihua.gov.cn/wsjksw/>)
179. Loudi Municipal Health Commission (<http://wjw.hnloudi.gov.cn/>)
180. Shaoyang Municipal Health Commission (<https://wjw.shaoyang.gov.cn/>)
181. Xiangtan Municipal Health Commission (<http://wsjkw.xiangtan.gov.cn/>)
182. Municipal Health Commission of Xiangxi Tujia and Miao Autonomous Prefecture (<http://wsjkwyh.xxz.gov.cn/>)
183. Yiyang Municipal Health Commission (<http://www.yiyang.gov.cn/yyswsjkw/>)
184. Yongzhou Municipal Health Commission (<http://wjw.yzcitv.gov.cn/>)
185. Yueyang Municipal Health Commission (<http://wsj.yueyang.gov.cn/>)
186. Zhuzhou Municipal Health Commission (<http://wjw.zhuzhou.gov.cn/>)
187. Baotou Municipal Health Commission (<http://wjw.baotou.gov.cn/>)
188. Bayannur Municipal Health Commission (<http://www.bynrws.gov.cn/>)
189. Health Commission of Hinggan League (<http://wjw.xam.gov.cn/>)
190. Hohhot Municipal Health Commission (<http://wjw.huhhot.gov.cn/>)
191. Hulun Buir Municipal Health Commission (<http://wjw.hlbe.gov.cn/>)
192. Manzhouli Municipal Health Commission (<http://www.manzhouli.gov.cn/>)
193. Ordos Municipal Health Commission (<http://wjw.ordos.gov.cn/wwz/tzggw/>)
194. Ulanqab Municipal Health Commission (<http://wjw.wulanchabu.gov.cn/>)
195. Health Commission of Huade County (<http://www.huade.gov.cn/>)
196. Health Commission of Siziwang County (<http://www.szwq.gov.cn/>)
197. Tongliao Municipal Health Commission (<http://wjw.tongliao.gov.cn/>)
198. Xilinhot Municipal Health Commission (<http://www.xilinhaote.gov.cn/>)
199. Changzhou Municipal Health Commission (<http://wjw.changzhou.gov.cn/>)
200. Huai'an Municipal Health Commission (<http://wjw.huai'an.gov.cn/>)
201. Lianyungang Municipal Health Commission (<http://wjw.lyg.gov.cn/>)
202. Nanjing Municipal Health Commission (<http://wjw.nanjing.gov.cn/>)
203. Nantong Municipal Health Commission (<http://wjw.nantong.gov.cn/>)
204. Suqian Municipal Health Commission (<http://wsj.suqian.gov.cn/>)
205. Suzhou Municipal Health Commission (<http://wsjkw.suzhou.gov.cn/>)
206. Wuxi Municipal Health Commission (<http://wjw.wuxi.gov.cn/>)
207. Xuzhou Municipal Health Commission (<http://ws.xz.gov.cn/>)
208. Yancheng Municipal Health Commission (<http://wsj.yancheng.gov.cn/>)
209. Yangzhou Municipal Health Commission (<http://wjw.yangzhou.gov.cn/>)
210. Zhenjiang Municipal Health Commission (<http://wjw.zhenjiang.gov.cn/>)
211. Changde Municipal Health Commission (<http://wjw.changde.gov.cn/>)
212. Fuzhou Municipal Health Commission (<http://wjw.jxfz.gov.cn/>)
213. Ganzhou Municipal Health Commission (<http://wjw.ganzhou.gov.cn/>)
214. Ji'an Municipal Health Commission (<http://wsjk.jian.gov.cn/>)
215. Jingdezhen Municipal Health Commission (<http://wsjs.jdz.gov.cn/>)
216. Jiujiang Municipal Health Commission (<http://wjw.jiujiang.gov.cn/>)
217. Nanchang Municipal Health Commission (<http://hc.nc.gov.cn/>)
218. Pingxiang Municipal Health Commission (<http://wjw.pingxiang.gov.cn/>)
219. Shangrao Municipal Health Commission (<http://www.srswjw.gov.cn/>)
220. Xinyu Municipal Health Commission (<http://wjw.xinyu.gov.cn/>)
221. Yichun Municipal Health Commission (<http://wjw.yichun.gov.cn/>)
222. Yingtan Municipal Health Commission (<http://wjw.yingtan.gov.cn/>)
223. Baicheng Municipal Health Commission (<http://wjw.jlbc.gov.cn/>)
224. Baishan Municipal Health Commission (<http://wsjkw.cbs.gov.cn/>)
225. Changchun Municipal Health Commission (<http://wjw.changchun.gov.cn/>)
226. Gongzhuling Municipal Health Commission (<http://www.gongzhuling.gov.cn/>)
227. Jilin Municipal Health Commission (<http://wjw.jlcity.gov.cn/>)
228. Liaoyuan Municipal Health Commission (<http://wjw.liaoyuan.gov.cn/>)
229. Siping Municipal Health Commission (<http://wjw.siping.gov.cn/>)
230. Songyuan Municipal Health Commission (<http://wsjkw.jlsy.gov.cn/>)
231. Tonghua Municipal Health Commission (<http://www.tonghua.gov.cn/wjw/>)
232. Health Commission of Yanbian Korean Autonomous Prefecture (<http://www.yanbian.gov.cn/>)
233. Anshan Municipal Health Commission (<http://wjw.anshan.gov.cn/>)
234. Benxi Municipal Health Commission (<http://wjw.benxi.gov.cn/>)
235. Chaoyang Municipal Health Commission (<http://wjw.zgcj.gov.cn/>)
236. Dalian Municipal Health Commission (<http://hcod.dl.gov.cn/web/guest>)
237. Dandong Municipal Health Commission (<http://wsjsw.dandong.gov.cn/>)
238. Fushun Municipal Health Commission (<http://fswjw.fushun.gov.cn/>)
239. Fuxin Municipal Health Commission (<http://www.fuxin.gov.cn/fxswsj/index.html>)
240. Huludao Municipal Health Commission (<http://wsjk.hld.gov.cn/>)
241. Jinzhou Municipal Health Commission (<http://wjw.jz.gov.cn/jzswindex/jzswindex;JSESSIONID=04402120-355a-429a-b5af-74bf959a6d0a>)
242. Liaoyang Municipal Health Commission (<http://wjw.liaoyang.gov.cn/>)
243. Panjin Municipal Health Commission (<http://wjw.panjin.gov.cn/>)
244. Shenyang Municipal Health Commission (<http://wjw.shenyang.gov.cn/>)
245. Tieling Municipal Health Commission (<http://wjw.tieling.gov.cn/>)
246. Yingkou Municipal Health Commission (<http://wjw.yingkou.gov.cn/>)
247. Guyuan Municipal Health Commission (<http://www.nxgy.gov.cn/>)
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248. Wuzhong Municipal Health Commission (<http://www.wuzhong.gov.cn/ztlz/ztlb/jtjgczl/wsjhj/>)
249. Yinchuan Municipal Health Commission (<http://wjw.yinchuan.gov.cn/>)
250. Zhongwei Municipal Health Commission (<http://www.znwf.gov.cn/>)
251. Health Commission of Tibetan Autonomous Prefecture of Haibei (<http://www.haibei.gov.cn/>)
252. Xining Municipal Health Commission (<http://wjw.xining.gov.cn/>)
253. Ankang Municipal Health Commission (<http://wj.j.ankang.gov.cn/>)
254. Baoji Municipal Health Commission (<http://wjw.baoji.gov.cn/>)
255. Hancheng Municipal Health Commission (<http://www.hancheng.gov.cn/gk/>)
256. Hanzhong Municipal Health Commission (<http://www.hanzhong.gov.cn/xxgk/>)
257. Health Commission of Xixiang county (<http://www.snx.gov.cn/>)
258. Shangluo Municipal Health Commission (<http://wjw.shangluo.gov.cn/>)
259. Health Commission of Luonan County (<http://www.luonan.gov.cn/>)
260. Tongchuan Municipal Health Commission (<http://wsjk.tongchuan.gov.cn/>)
261. Weinan Municipal Health Commission (<http://wsjsj.weinan.gov.cn/>)
262. Xi'an Municipal Health Commission (<http://xawjw.xa.gov.cn/>)
263. Xianyang Municipal Health Commission (<http://wj.j.xys.gov.cn/>)
264. Yan'an Municipal Health Commission (<http://wjw.yanan.gov.cn/>)
265. Health Bureau of Yangling (<http://wsjkj.yangling.gov.cn/>)
266. Yulin Municipal Health Commission (<http://wjw.yl.gov.cn/>)
267. Binzhou Municipal Health Commission (<http://wjw.binzhou.gov.cn/index.php>)
268. Dezhou Municipal Health Commission (<http://dzwjw.dezhou.gov.cn/>)
269. Dongying Municipal Health Commission (<http://dywsjk.dongying.gov.cn/>)
270. Heze Municipal Health Commission (<http://hzswsjkw.heze.gov.cn/>)
271. Jinan Municipal Health Commission (<http://jnmmc.jinan.gov.cn/>)
272. Jining Municipal Health Commission (<http://wjw.jining.gov.cn/>)
273. Liaocheng Municipal Health Commission (<http://wjw.liaocheng.gov.cn/>)
274. Linyi Municipal Health Commission (<http://wsjw.linyi.gov.cn/>)
275. Qingdao Municipal Health Commission (<http://wsjsw.qingdao.gov.cn/n28356065/index.html>)
276. Rizhao Municipal Health Commission (<http://wsjkw.rizhao.gov.cn/>)
277. Taian Municipal Health Commission (<http://wjw.taian.gov.cn/>)
278. Weifang Municipal Health Commission (<http://wsjkw.weifang.gov.cn/>)
279. Weihai Municipal Health Commission (<http://wsjkw.weihai.gov.cn/>)
280. Yantai Municipal Health Commission (<http://wjw.yantai.gov.cn/>)
281. Zaozhuang Municipal Health Commission (<http://wsjkw.zaozhuang.gov.cn/>)
282. Zibo Municipal Health Commission (<http://ws.zibo.gov.cn/>)
283. Changzhi Municipal Health Commission (<http://www.wjw.changzhi.gov.cn/>)
284. Datong Municipal Health Commission
(<http://www.dt.gov.cn/dtxgk/xxgktree/xxgktree.html?parentChannelId=302f1736b57c49d0bb6334d24165972b>)
285. Hejin Municipal Health Commission (<http://www.sxhj.gov.cn/index.php>)
286. Jinzhong Municipal Health Commission (<http://wjw.sxjz.gov.cn/>)
287. Health Commission of Pingyao County (<http://www.pingyao.gov.cn/>)
288. Linfen Municipal Health Commission (<http://www.linfen.gov.cn/wjw/>)
289. Yuncheng Municipal Health Commission (<https://wsjkw.yuncheng.gov.cn/>)
290. Health Commission of Ruicheng County (<http://www.rcx.gov.cn/>)
291. Health Commission of Wanrong County (<https://www.wanrong.gov.cn/index.htm>)
292. Health Commission of Xia County (<http://www.sxxiaxian.gov.cn/>)
293. Health Commission of Xinjiang County (<http://www.jiangzhou.gov.cn/>)
294. Lvliang Municipal Health Commission (<http://www.lvliang.gov.cn/>)
295. Health Commission of Wenshui County (<http://www.wenshui.gov.cn/>)
296. Taiyuan Municipal Health Commission (<http://wjw.taiyuan.gov.cn/>)
297. Xiaoyi Municipal Health Commission (<http://www.xiaoyi.gov.cn/xxgk/zwzt/yqfk/>)
298. Shuozhou Municipal Health Commission (<http://szxxgk.shuozhou.gov.cn/szfgzbm/szs-wsj/>)
299. Health Commission of Ying County (<http://www.yingxian.gov.cn/>)
300. Health Commission of Tibetan Qiang Autonomous Prefecture of Ngawa (<http://wjw.abazhou.gov.cn/>)
301. Bazhong Municipal Health Commission (<http://wsjkw.cnbz.gov.cn/index.html>)
302. Chengdu Municipal Health Commission (<http://cdwjw.chengdu.gov.cn/>)
303. Dazhou Municipal Health Commission (<http://wjw.dazhou.gov.cn/>)
304. Deyang Municipal Health Commission (<https://wjw.deyang.gov.cn/>)
305. Health Commission of Tibetan Autonomous Prefecture of Garzê (<http://wjw.gzz.gov.cn/>)
306. Guang'an Municipal Health Commission (<http://wjw.guang-an.gov.cn/>)
307. Guangyuan Municipal Health Commission (<http://wsjsw.cngy.gov.cn/>)
308. Leshan Municipal Health Commission (<http://swjj.leshan.gov.cn/>)
309. Liangshan Municipal Health Commission (<http://wjw.lsz.gov.cn/>)
310. Luzhou Municipal Health Commission (<http://wjw.luzhou.gov.cn/>)
311. Meishan Municipal Health Commission (<http://swjw.ms.gov.cn/>)
312. Mianyang Municipal Health Commission (<http://wjw.my.gov.cn/>)
313. Nanchong Municipal Health Commission (<http://wsjsw.nanchong.gov.cn/>)
314. Neijiang Municipal Health Commission (<http://wsj.neijiang.gov.cn/>)
315. Panzhihua Municipal Health Commission (<http://wjw.panzhihua.gov.cn/>)
316. Suining Municipal Health Commission (<http://swjw.suining.gov.cn/>)
317. Ya'an Municipal Health Commission (<http://wjw.yaan.gov.cn/>)
318. Yibin Municipal Health Commission (<http://ybwjw.yibin.gov.cn/>)
319. Zigong Municipal Health Commission (<http://www.zg.gov.cn/web/swsjsw>)
320. Ziyang Municipal Health Commission (<http://swjw.ziyang.gov.cn/>)
321. Lhasa Municipal Health Commission (<http://www.lasa.gov.cn/lasa/c101149/lsfyzt.shtml>)
322. Urumqi Municipal Health Commission
(http://www.urumqi.gov.cn/info/iIndex.jsp?cat_id=15790&from=message&isappinstalled=0)
323. Health Commission of Yili Prefecture (<http://www.xjyl.gov.cn/index.htm>)
324. Baoshan Municipal Health Commission (<http://www.baoshan.gov.cn/bmym/bsswsjkwyh.htm>)
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325. Health Commission of Chuxiong (<http://wjw.cxz.gov.cn/>)
326. Health Commission of Dali Bai Autonomous Prefecture (<http://www.dali.gov.cn/dlrmzf/index.shtml>)
327. Health Commission of Dehong Autonomous Prefecture (<http://www.dh.gov.cn/wjw/web/>)
328. Health Commission of Hani-Yi Autonomous Prefecture of Honghe (<http://www.hh.gov.cn/xxgk/xxgkndbg/zjbm/zwsjsw/>)
329. Jinghong Municipal Health Commission (<https://www.jhs.gov.cn/index.dhtml>)
330. Kunming Municipal Health Commission (<http://wsjkw.km.gov.cn/>)
331. Lijiang Municipal Health Commission (<http://www.lijiang.gov.cn/>)
332. Lincang Municipal Health Commission (<http://www.lincang.gov.cn/lcsrzmzf/18500/index.html>)
333. Health Commission of Nujiang of the Lisu Autonomous Prefecture (<http://www.nujiang.gov.cn/wsjkwyh/>)
334. Puer Municipal Health Commission (<http://www.puershi.gov.cn/index.htm>)
335. Qujing Municipal Health Commission (<http://www.qj.gov.cn/html/bmdt2/wsj/>)
336. Ruili Municipal Health Bureau (<http://www.rl.gov.cn/Web/index.aspx>)
337. Tengchong Municipal Health Commission (<http://www.tengchong.gov.cn/>)
338. Health Commission of Wenshan Zhuang and Miao Autonomous Prefecture (<http://www.ynws.gov.cn/>)
339. Health Commission of Dai Autonomous Prefecture of Xishuangbanna (<https://wjw.xsbn.gov.cn/index.dhtml>)
340. Xuanwei Municipal Health Commission (<http://www.xw.gov.cn/>)
341. Yuxi Municipal Health Commission (<http://www.yuxi.gov.cn/>)
342. Zhaotong Municipal Health Commission (<http://www.zt.gov.cn/>)
343. Hangzhou Municipal Health Commission (<http://wsjkw.hangzhou.gov.cn/>)
344. Jiaxing Municipal Health Commission (<http://wsjkw.jiaxing.gov.cn/>)
345. Jinhua Municipal Health Commission (<http://wjw.jinhua.gov.cn/zwgk/gknb/public.html>)
346. Lishui Municipal Health Commission (<http://wsjsw.lishui.gov.cn/>)
347. Ningbo Municipal Health Commission (<http://wjw.ningbo.gov.cn/>)
348. Quzhou Municipal Health Commission (<http://wjw.qz.gov.cn/>)
349. Shaoxing Municipal Health Commission (<http://sxws.sx.gov.cn/>)
350. Taizhou Municipal Health Commission (<http://wsjkw.zjtz.gov.cn/index.php>)
351. Wenzhou Municipal Health Commission (<http://wjw.wenzhou.gov.cn/>)
352. Zhoushan Municipal Health Commission (<http://wsjkw.zhoushan.gov.cn/>)
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- Type II: Websites of officially affiliated institutions of national, provincial, and municipal authorities
1. Anqing News Network (<http://www.aqnews.com.cn/>)
 2. Bengbu News Network(<http://www.bbbnews.cn/>)
 3. Bozhou News Network (<http://www.bozhou.cn/>)
 4. Chizhou News Network (<http://www.chiznews.com/>)
 5. Chuzhou Network (<http://www.chuzhou.cn/>)
 6. Fuyang News Network (<https://www.fynews.net/>)
 7. Hefei Online (<http://www.hf365.com/>)
 8. HuaiBei News Network (<http://www.hbnews.net/>)
 9. Huainan Network (<http://www.huainannet.com/>)
 10. Huangshan News Network (<http://www.hsnewsnet.com/>)
 11. Luan News Network (<http://www.luaninfo.com/>)
 12. Maanshan Daily (http://epaper2.wjol.net.cn/epaper/masrb/pc/layout/202002/12/node_1.html)
 13. Suzhou News Network (<http://www.ahsz.tv/>)
 14. Tongling News Network (<http://www.tlnews.cn/>)
 15. Wuhu News Network (<http://www.wuhunews.cn/>)
 16. Xvancheng News Network(<http://www.newsxc.com/>)
 17. Beijing Daily (http://bjrb.bjd.com.cn/html/2020-02/12/node_1.htm)
 18. Chongqing Daily (<https://www.cqrbcn.com/>)
 19. Fuzhou News Network (<http://www.fznews.com.cn/>)
 20. Minxi Daily (http://www.mxrb.cn/dzb/mxrb/2020-02/12/node_01.html)
 21. Minbei Daily (http://mbrb.greatwuyi.com/202002/12/node_1.html)
 22. Ningde Network (<http://www.ndwww.cn/>)
 23. Quanzhou Evening News (http://szb.qzwb.com/qzwb/html/2020-02/12/node_2.htm)
 24. Sanming Daily(http://smrb.smnet.com.cn/pc/layout/202002/12/node_A1.html)
 25. Xiamen Daily (<http://epaper.xmnn.cn/xmrb/20200212/>)
 26. Zhangzhou News Network(<http://www.zznews.cn/>)
 27. Baiyin Daily (<http://www.bynews.com.cn/>)
 28. Xiangbala Online--Gannan Daily (<http://www.gnxblzx.com/>)
 29. Jingchang News Network (<http://www.jinchangnews.cn/>)
 30. Lanzhou Daily (http://rb.lzbs.com.cn/html/2020-02/12/node_43.htm)
 31. National Daily (http://szb.chinalxnet.com/html/2020-02/12/node_2.htm)
 32. Longnan Daily (<http://lnb.gansudaily.com.cn/>)
 33. Pingliang News Network (<http://www.plxww.com/>)
 34. Qingsyang Network (<http://www.qingsyangwang.com.cn/>)
 35. New Tianshui (<http://www.tsrb.com.cn/>)
 36. Dingxi Daily (<http://szb.dingxidaily.com/rb/20200212/Page01IP.htm>)
 37. Gansu Zhangye Network (<http://www.zyrb.com/>)
 38. Chaozhou Daily (<http://www.chaozhoudaily.com/>)
 39. Dongguan Daily (<http://epaper.timedg.com/>)
 40. Foshan Daily (http://epaper.fsonline.com.cn/fsrb/html/2020-02/12/node_1.htm?v=1)
 41. Guangzhou Daily (<https://www.gzdaily.cn/amucsite/web/index.html#/home>)
 42. Huizhou Daily (http://e.hznews.com/hzrb/pc/202002/12/node_A01.html)
 43. Jiangmen Daily (http://dzb.jmrb.com:8080/jmrb/html/2020-02/12/node_22.htm)
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44. Jieyang Daily (<http://jyrb.jynews.net/>)
45. Maoming Network (<http://www.mm111.net/>)
46. Meizhou Daily (http://mzrb.meizhou.cn/html/2020-02/12/node_2.htm)
47. Qingyuan Daily (<http://www.qyrb.com/>)
48. Dahua Network (<http://www.dahuawang.com/>)
49. Shanwei Daily (<http://www.shanweinews.net/>)
50. Shaoguan Daily (http://sgrb.sgxw.cn/html/2020-02/12/node_1.htm)
51. Shenzhen News Network (<http://www.sznews.com/>)
52. Yangjiang News Network (<http://www.yjrb.com.cn/>)
53. Zhanjiang News Network (<http://www.gdzjdaily.com.cn/>)
54. Xi'jiang Network (<http://www.xjrb.com/>)
55. Zhongshan Daily (<http://epaper.zsnews.cn/epaper/zsrb/paperdate/20200212.html>)
56. Zhuhai Daily (http://zhuhaidaily.hizh.cn/html/2020-02/12/node_1.htm?v=1)
57. Baise News Network (<http://www.bsyjrb.com/>)
58. Beihai News Network (<http://www.bhxww.com/>)
59. Fangchenggang News Network (<http://www.fcgnews.com/>)
60. Guilin Daily (http://epaper.guilinlife.com/glrh/html/2020-02/12/node_2.htm)
61. Hechi Daily (http://hcrb.hcwang.cn/html/2020-02/12/node_1.htm)
62. Hezhou Daily (<http://www.chhzm.com/szb/hzrb/content/20200211/Page01BC.htm>)
63. Liuzhou Daily (http://szb.lznews.gov.cn/lzrb/html/2020-02/12/node_9.htm)
64. Nanning Daily (<http://www.nnnr.com.cn/pcindex.jsp>)
65. Qinzhou News Network (<http://www.gxqzxw.com/>)
66. Wuzhou Daily (http://www.wuzhoudaily.com.cn/html/2020-02/12/node_3.htm)
67. Yulin News Network (<http://www.gxylnews.com/>)
68. Anshun News Network (<http://www.asxw.net/>)
69. Bijie Daily (http://rb.bjrb.cn/html/2020-02/13/node_1.htm)
70. Guiyang Daily (http://epaper.gywb.cn/epaper/gyrb/html/2020-02/13/node_301.htm)
71. Liupanshui Daily (http://epaper.lpswz.com/lpsrb/html/2020-02/13/node_3.htm)
72. Qiandongnan Daily (<http://dzq.qdnbs.cn/szb/pc/202002/13/101.html>)
73. Wuhan Evening News (http://whwb.cjn.cn/html/2020-01/23/node_73.htm)
74. Qiannan Daily (http://cnepaper.com/qnrb/html/2020-02/13/node_1.htm)
75. Qianxinan Daily (http://www.qxnrb.com/epaper/qxnrb/html/2020-02/13/node_269.htm)
76. Tongren Daily (<http://szb.trxw.gov.cn/epaper/uniflows/html/2020/02/13/01/default.htm>)
77. Zunyi Daily (http://cnepaper.com/zyrbszb/html/2020-02/13/node_1.htm)
78. Baoting News (<http://baoting.hinews.cn/>)
79. Changjiang News (<http://changjiang.hinews.cn/>)
80. Chengmai News (<http://chengmai.hinews.cn/>)
81. Danzhou News (<http://danzhou.hinews.cn/>)
82. Dingan News (<http://dingan.hinews.cn/>)
83. Dongfang News (<http://dongfang.hinews.cn/>)
84. Haikou Daily (http://szb.hkwb.net/szb/html/2020-02/13/node_2.htm)
85. Ledong News (<http://ledong.hinews.cn/>)
86. Lingao News (<http://lingao.hinews.cn/>)
87. Lingshui News (<http://lingshui.hinews.cn/>)
88. Qionghai News (<http://qionghai.hinews.cn/>)
89. Qiongzhong News (<http://qiongzhong.hinews.cn/>)
90. Sanya Daily (http://epaper.sanyarb.com.cn/html/2020-02/13/node_1.htm?v=1)
91. Wanning News (<http://wanning.hinews.cn/>)
92. Wenchang News (<http://wenchang.hinews.cn/>)
93. Baoding News (<http://bd.hebnews.cn/>)
94. Cangzhou News Network (<http://www.cznews.gov.cn/newweb/index.html>)
95. Hehe Chengde Network (<http://www.hehechengde.cn/>)
96. Handan Daily (http://szb.handannews.com.cn/rbpaper/pc/layout/202002/13/node_01.html)
97. Hengshui News Network (<http://www.hsrh.com.cn/a/>)
98. Langfang News Network (<http://www.lfnews.cn/>)
99. Qinhuangdao News Network (<http://www.qhdnews.com/>)
100. Shijiazhuang Daily (http://sjzrb.sjzdaily.com.cn/html/2020-02/13/node_5.htm)
101. Tangshan Labor Daily (http://szb.huangbohainews.com.cn/tsldrb/html/2020-02/13/node_19.htm)
102. Xingtai Daily (http://www.xtrb.cn/epaper/xtrb/html/2020-02/13/node_61.htm)
103. Zhangjiakou News Network (<http://www.zjknews.com/>)
104. Daqing Daily (http://dqxmt.dqdaily.com/dqrb/html/2020-02/13/node_2.htm)
105. Haerbin Daily (http://hb.my399.com/html/2020-01/24/node_4.htm)
106. Hegang News Network (<http://hegangnews.dbw.cn/>)
107. Jixi News Network (<https://jixi.dbw.cn/>)
108. Mudanjiang News Network (<http://mudanjiang.dbw.cn/>)
109. Qitaihe News Network (<http://www.qthnews.org.cn/>)
110. Shuangyashan News Network (<http://shuangyashan.dbw.cn/>)
111. Suihua News Network (<https://suihua.dbw.cn/>)
112. Anyang Daily (http://www.ayrbs.com/epaper/html/2020-02/13/node_2.htm)
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113. Hebi Daily (<http://paper.hebiw.com/epaper/hbrb/2020/02/13/RB01/10609726.shtml>)
 114. Jiaozuo Daily (http://epaper.jzrb.com/html/2020-02/13/node_62.htm)
 115. Kaifeng Daily (http://kfrb.kf.cn/html/2020-02/13/node_4.htm)
 116. Luohu Daily (http://rb.lhrb.com.cn/html/2020-02/13/node_2.htm)
 117. Luoyang Daily (http://lyrb.lyd.com.cn/html2/2020-02/13/node_3.htm)
 118. Nanyang Daily (http://epaper.01ny.cn/http_rb/html/2020-02/13/node_5.htm)
 119. Sanmenxia Daily (http://szb.westking.com/smxb/html/2020-02/13/node_17.htm)
 120. Shangqiu Network (<http://www.sqrq.com.cn/>)
 121. Xinxiang Daily (http://rb.xxrb.com.cn/html/2020-02/13/node_3.htm)
 122. Xinyang Daily (http://ribao.xyww.com.cn/html/2020-02/13/node_2.htm)
 123. Xvchang Network (<http://www.21xc.com/>)
 124. Zhengzhou Daily (https://zzrb.zynews.cn/html/2020-02/13/node_3.htm)
 125. Zhoukou Daily (http://www.zhld.com/zkrb/html/2017-12/30/node_41.htm)
 126. Zhumadian Daily (<http://zmdrb.zmdnews.cn/zmdrb/20200213/html/index.htm>)
 127. Huanggang News Network (<http://www.hgdaily.com.cn/>)
 128. Huangshi News Network (<http://www.hsdcw.com/>)
 129. Jingzhou Daily (<http://www.cnchu.com/>)
 130. Shiyan Daily (<http://syrb.10yan.com/>)
 131. Tianmen Network (<http://www.tmwcn.com/>)
 132. Xiangyang Daily (<http://xfrb.hj.cn/>)
 133. Xianning Daily (http://szb.xnnews.com.cn/xnrb/html/2020-02/13/node_5.htm)
 134. Xiaogan Network (<http://www.xgrb.cn/>)
 135. Sanxia Yichang Network (<http://www.cn3x.com.cn/>)
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Definition of key variables included in individual records

In Tab. S2 we report the standardized form we used for data collection.

Table S2. Standardized form used to collect information on individual patient information

Variable	Definition
Location of case detection	City where the case was officially reported
Province of case detection	Province where the case was officially reported
Age	Age of case (in years)
Sex	Sex of case
Exposure to seafood market	Whether the case had reported a history of exposure to seafood market (binary)
Exposure to wild animals	Whether the case had reported a history of exposure to wild animals (binary)
Exposure to live animals	Whether the case had reported a history of exposure to live animals (binary)
Exposure to COVID-19 cases	Whether the case had been in close contacts with confirmed COVID-19 cases (binary)
Exposure to patients with acute respiratory infections	Whether the case had been in close contacts with patients with acute respiratory infections (binary)
Exposure to Wuhan/Hubei	Whether the case had resided in or visited Wuhan city or Hubei province (binary)
Type of exposure to Wuhan	Type of exposure to Wuhan city, i.e. residence in or visit Wuhan city
Start date of exposure*	The start date of exposure to seafood market, wild and live animals, confirmed COVID-19 cases, patients with acute respiratory infections, or spent time in Wuhan/Hubei
End date of exposure*	The end date of exposure to seafood market, wild and live animals, confirmed COVID-19 cases, patients with acute respiratory infections, or spent time in Wuhan/Hubei
Suspected date of exposure to a confirmed case	Date of exposure to confirmed COVID-19 case (point estimate or start-end date)
Date of official reporting	Reporting by official authorities (date)
Date of symptom onset	Date of symptom onset
Date of first healthcare consultation	Date of first healthcare consultation
Date of hospital admission	Date of first hospital admission
Cluster id	ID of the cluster that the case belongs to
Index case	Whether the case is the index case of the cluster (binary)
Relation with the cluster index case	The relation between index case and secondary cases

Location of contacts	Location where the secondary case was exposed to the index case, i.e., home, work, healthcare institutions or other locations
Contact case	Whether the case has been identified as a close contact of a COVID-19 case through prospective contact tracing (binary)

*The earliest and latest dates were used if multiple exposures were identified.

Completeness of the individual records

We assessed the completeness of all variables included in this study (Tab. S3). Completeness was high for variables that relate to demographic characteristics (e.g., age and sex), location of case detection, exposure history, and date of official reporting (range: 93.3-100%). Variables involving key time to event distributions (i.e., the date of symptom onset, first healthcare consultation, and hospital admission) had more missing observations and were available in 45.5-66.2% of the COVID-19 cases.

Exposure history information was available for about half of the cases. Of the 8,579 cases, 36.8% (3,153/8,579) of cases reported a history of travel to Wuhan, 6.0% (519/8,579) reported a history of travel to Hubei, 7.5% (640/8,579) reported no travel history to either Wuhan or Hubei, and 49.7% (4,267/8,579) lacked travel history information. This information allowed us to distinguish local transmission from importations. According to the case definition provided earlier in this Appendix, suspected cases should have had an epidemiological link to Wuhan/Hubei (including travel history to Wuhan/Hubei or direct contact with patients from Wuhan/Hubei) or be part of a possible cluster (including having a link with a laboratory-confirmed case). Thus, if the case provided no information about travel history to Wuhan/Hubei, we assumed that the case acquired the infection locally.

Table S3. Completeness of variables used in the study.

Variable	Outside Hubei (n=8,579) ^a
Age	94.1%
Sex	97.3%
Location of case detection at city level	99.6%
Exposure history ^b	100%
Date of symptom onset	66.2%
Date of first healthcare consultation	47.2%
Date of hospital admission	45.5%
Date of official reporting ^c	93.3%

a. This number represents completeness for all cases.

b. We collected three types of potential exposure, including exposure to animals, seafood markets, and wild animals; exposure to COVID-19 cases or to patients with acute respiratory infections; and exposure to Wuhan/Hubei.

c. A potential delay (1-2 days) was observed between the date of official reporting (provided by the officially affiliated institution, if available) and the date of data release. Therefore, we consider the date of official reporting to be missing when not provided in the released data.

Comparison between our individual records and official line lists

We compared our individual records that were based on real-time public data releases by official sources with the official line lists released by the Shandong Provincial Health Commission, Shenzhen Municipal Health Commission, and Hunan Provincial Health Commission after Jan 30, 2020. Individual records were then matched to the official line list according to demographic information, and time and location of case reporting. Matches were identified on the basis of consistent gender, age (less than 1-year-difference), and official reporting date (less than 1 day). Additionally, we observed a difference between the dates of official reporting by municipal and provincial health commissions, so we considered a two-day lag when comparing individual records in our study with official line lists. Overall, a total of 299 cases in Hunan Province, 302 cases in Shandong Province and 312 cases in Shenzhen City were matched, respectively. There was high consistency in demographics and time to event distributions (70.9-100.0%) between our individual records and official line lists, while consistency was lower in Shandong Province due to a two-day lag between reports issued by provincial and municipal authorities. After matching and selection, cases from the official line

list that could not be matched with our individual records were merged in our individual records. Through this process, we added 87 records for Shenzhen City (21.6% of total cases) and 17 records for Shandong Province (3.3% of total cases) as of February 14, 2020.

Table S4. Comparison between our individual records and official line lists.

Variable		Hunan Province (n=299)	Shandong Province (n=302)	Consistency rate (%) Shenzhen City (n=312)
Age				
Non-missing data in our individual records and official data (% , no./Total no.)		87.6 (262/299)	99.3 (300/302)	100 (312/312)
No difference		79.8 (209/262)	99.0 (297/300)	99.7 (311/312)
Difference within 1 year		20.2 (53/262)	0.7 (2/300)	0.3 (1/312)
Missing in our individual records (% , no./Total no.)		12.4 (37/299)	0.7 (2/302)	0 (0/312)
Sex				
Non-missing data in our individual records and official data (% , no./Total no.)		100 (299/299)	100 (302/302)	100 (312/312)
No difference		100 (299/299)	99.3 (300/302)	100 (312/312)
Difference		0 (0/299)	0.7 (2/302)	0 (0/312)
Missing in our individual records (% , no./Total no.)		0 (0/299)	0 (0/302)	0 (0/312)
Date of symptom onset				
Non-missing data in our individual records and official data (% , no./Total no.)		70.9 (212/299)	54.0 (163/302)	96.2 (300/312)
No difference		90.1 (191/212)	93.9 (153/163)	99.7 (299/300)
Difference within 1 day		9.0 (19/212)	1.8 (3/163)	0.3 (1/300)
Missing in our individual records (% , no./Total no.)		29.1 (87/299)	44.4 (134/302)	3.5 (11/312)
Date of first healthcare consultation				
Non-missing data in our individual records and official data (% , no./Total no.)		18.4 (55/299)	-	-
No difference		70.9 (39/55)	-	-
Difference within day		20.0 (11/55)	-	-
Missing in our individual records (% , no./Total no.)		75.9 (227/299)	-	-
Date of hospital admission				
Non-missing data in our individual records and official data (% , no./Total no.)		47.8 (143/299)	-	79.2 (247/312)
No difference		75.5 (108/143)	-	100 (247/247)
Difference within 1 day		20.3 (29/143)	-	-
Missing in our individual records (% , no./Total no.)		50.8 (152/299)	-	20.8 (65/312)
Date of official reporting*				
Non-missing data in our individual records and official data (% , no./Total no.)		-	98.0 (296/302)	-
No difference		-	1.0 (3/296)	-
Difference within 2 days		-	98.0 (290/296)	-
Missing in our individual records (% , no./Total no.)		-	1.7 (5/302)	-

Note: reduced denominators indicate difference greater than one day but lower than two days

*Date of official reporting was not released for the official line lists in Hunan Province and Shenzhen City.

Data representativeness

Tab. S5 shows a comparison between the number of confirmed cases by province (excluding Hubei) in our individual records and the total number of official confirmed case reports as of February 17, 2020. Figure S1 shows a comparison between the time series derived from our individual records and the officially case reports for: i) all provinces of mainland China (except Hubei), and ii) six of the most affected areas of mainland China (excluding Hubei Province). The estimation of the net reproduction number R_t was conducted for these six locations and the three additional locations that were validated against the official line lists (see previous section).

Table. S5. Proportion of cases reported by each province for whom we have individual information in our records, by province/municipality of mainland China, as of Feb. 17, 2020. The 9 locations selected for the analysis of R_t are highlighted in bold. Hubei is excluded.

Province/ municipality	No. of cases with individual data	No. of total confirmed cases	Proportion (%)
Mainland China excluding Hubei Province	8,579	12,447	68.9
Guangdong	867	1,328	65.3
Shenzhen city	401	416	96.4
Outside Shenzhen city	464	912	50.9

Unknown city	2	NA	NA
Henan	759	1,257	60.4
Zhejiang	1,007	1,172	85.9
Hunan	746	1,007	74.1
Anhui	865	982	88.1
Jiangxi	792	933	84.9
Jiangsu	611	629	97.1
Chongqing	28	553	5.1
Shandong	522	543	96.1
Sichuan	192	508	37.8
Heilongjiang	92	464	19.8
Beijing	204	387	52.7
Shanghai	138	333	41.4
Hebei	263	302	87.1
Fujian	89	292	30.5
Guangxi	154	242	63.6
Shaanxi	224	240	93.3
Yunnan	115	172	66.9
Hainan	153	163	93.9
Guizhou	143	146	97.9
Shanxi	74	130	56.9
Tianjin	120	125	96
Liaoning	120	121	99.2
Gansu	85	91	93.4
Jilin	89	89	100
Xinjiang	13	76	17.1
Inner Mongolia	31	73	42.5
Ningxia	65	70	92.9
Qinghai	17	18	94.4
Tibet	0	1	0

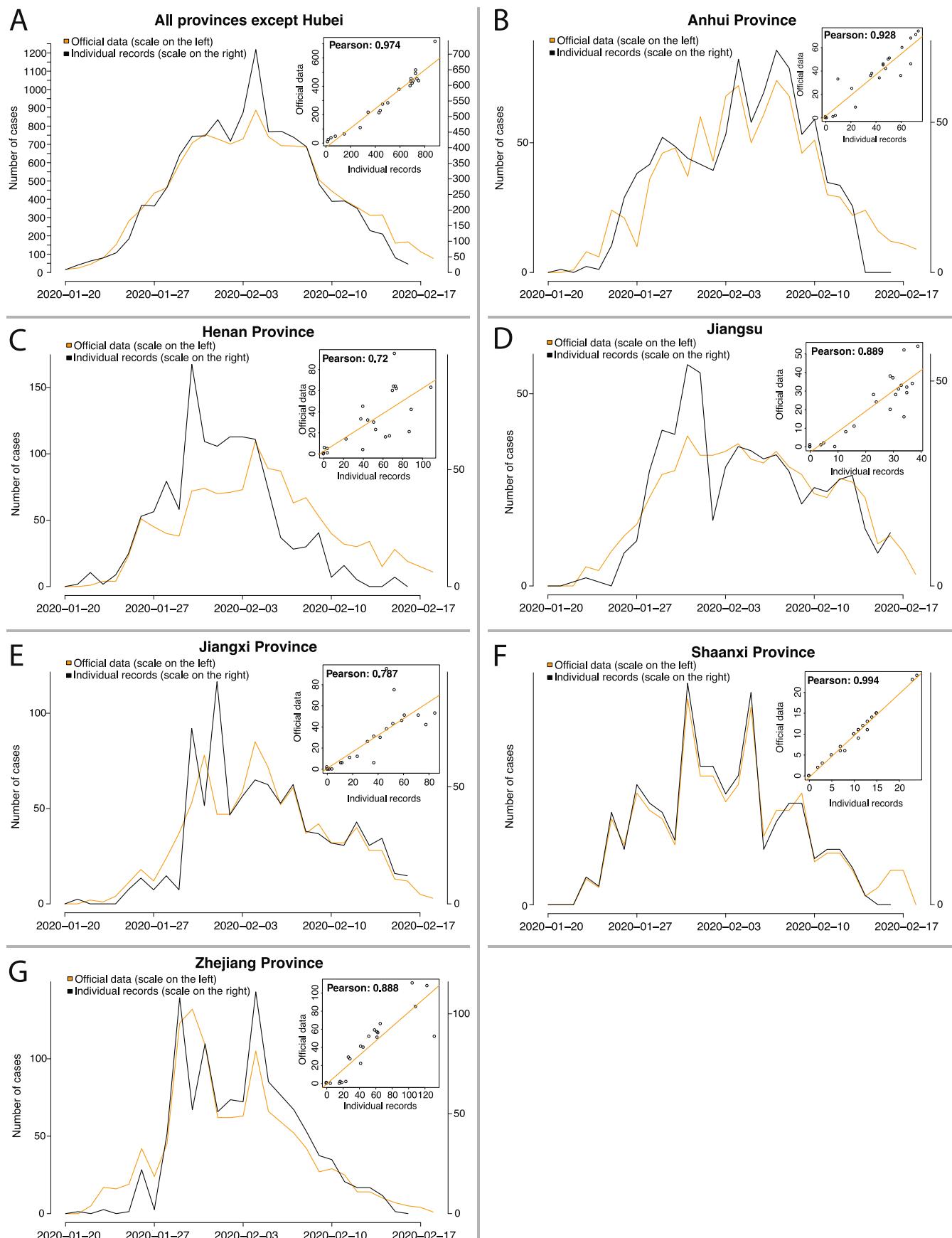


Figure. S1. A Time series of confirmed cases (by date of reporting) resulting from our individual records and official reports for all provinces of mainland China except Hubei. The inset shows a scatter plot of the two time series and the value of the Pearson's correlation coefficient. B-G Same as A, but for Anhui Province, Henan Province, Jiangsu Province, Jiangxi Province, Shaanxi Province, and Zhejiang Province, respectively.

Age and sex distribution of cases

The age and sex distributions of COVID-19 cases are represented by epidemic period in Fig. S2. Cases with missing age and sex information were omitted from this analysis.

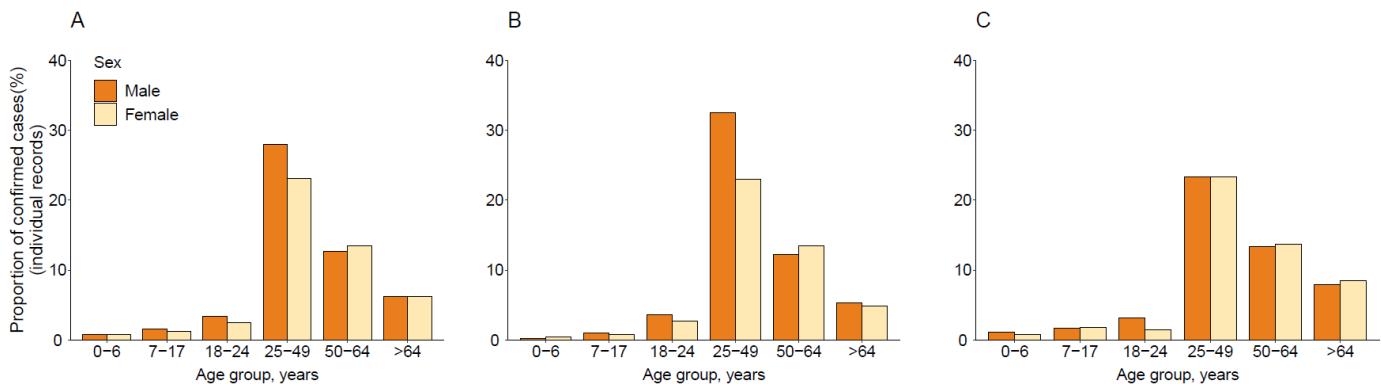


Figure. S2. Age and sex distribution of cases in provinces outside Hubei, stratified by epidemic period. A: Overall (n=7,936); B: Period 1 (n=3,820); C: Period 2 (n=2,270).

Key time to event variables over time

We performed a complete-case analysis of the individual records to obtain information about the following key time intervals:

- (1) Time from symptom onset to first healthcare consultation;
- (2) Time from symptom onset to hospital admission;
- (3) Time from first healthcare consultation to hospital admission;
- (4) Time from symptom onset to case reporting;

These time intervals may greatly depend on the behavior of the population, responses to the unfolding outbreak, and the local health care infrastructure. Therefore, we provide different estimates for two time periods of the epidemic, before and after Jan 27th.

We used maximum likelihood estimation to find the optimal parameters for gamma, lognormal, and Weibull distributions fitted to the data. The fits of the three distributions were compared using Akaike information criterion (AIC). We used complete-case analysis, where we omit cases with any missing variable. Results are reported in Tab. S6-S9.

Table. S6. Estimation of the distribution of the time from symptom onset to first healthcare consultation.

Distribution ^a	All	Period of the epidemic	
		Period 1	
		Dec 24 - Jan 27	Jan 28 – Feb 17
Time from symptom onset to first healthcare consultation (days)			
Number of observations	2888	1836	1052
Empirical data	2.5 (95%CI:0.0-10.0)	3.0 (95%CI:0.0-11.1)	1.6 (95%CI:0.0-7.0)
Gamma			
mean (95%CI)	2.6 (95%CI:0.01-12.3)	3.1 (95%CI:0.02-12.8)	1.6 (95%CI:0.006-7.5)
parameters	shape = 0.60, rate = 0.24	shape = 0.62, rate = 0.20	shape = 0.62, rate = 0.37
AIC (Δ AIC)	10566.2 (reference)	7436.8 (reference)	2996.5 (18.0)
Weibull			
mean (95%CI)	2.7 (95%CI:0.01-12.9)	3.3 (95%CI:0.02-17.0)	1.6 (95%CI:0.01-8.2)

parameters	scale = 2.08, shape = 0.71	scale = 2.58, shape = 0.74	scale = 1.37, shape = 0.72
AIC (Δ AIC)	10596.1 (29.9)	7481.9 (45.1)	2989.2(10.7)
Lognormal			
mean (95%CI)	3.8 (95%CI:0.03-25.2)	4.9 (95%CI:0.04-33.3)	2.4 (95%CI:0.03-14.0)
parameters	meanlog = -0.09, sdlog = 1.71	meanlog = 0.13, sdlog = 1.73	meanlog = -0.48, sdlog = 1.61
AIC (Δ AIC)	10776.7 (210.5)	7708.9 (272.1)	2978.5 (reference)

a. To account for reporting delays, we excluded the last 9 days of data (i.e., data after February 8, 2020).

Table. S7. Estimation of the distribution of the time from symptom onset to hospital admission.

Distribution ^a	All	Period of the epidemic	
		Period 1	Period 2
		Dec 24 - Jan 27	Jan 28 – Feb 17
Time from symptom onset to hospital admission (days)			
Number of observations	2001	1310	691
Empirical data	3.8 (95%CI:0.0-12.0)	4.4 (95%CI:0.0-14.0)	2.6 (95%CI:0.0-9.0)
Gamma			
mean (95%CI)	3.8 (95%CI:0.03-17.3)	4.2 (95%CI:0.04-16.7)	2.6 (95%CI:0.01-11.6)
parameters	shape = 0.74, rate = 0.20	shape = 0.80, rate = 0.18	shape = 0.71, rate = 0.27
AIC (Δ AIC)	9206.2 (reference)	6464.5 (reference)	2654.4 (reference)
Weibull			
mean (95%CI)	3.8 (95%CI:0.03-15.5)	4.5 (95%CI:0.09-16.9)	2.6 (95%CI:0.03- 9.9)
parameters	scale = 3.52, shape = 0.85	scale = 4.24, shape = 0.91	scale = 2.36, shape = 0.81
AIC (Δ AIC)	9257.7 (51.5)	6494.6 (30.1)	2667.2 (12.8)
Lognormal			
mean (95%CI)	6.8 (95%CI:0.07-47.3)	6.3 (95%CI:0.1-42.3)	3.8 (95%CI:0.04-27.6)
parameters	meanlog = 0.52, sdlog = 1.63	meanlog = 0.74, sdlog = 1.61	meanlog = 0.11, sdlog = 1.60
AIC (Δ AIC)	9735.7 (529.5)	6901.1 (436.6)	2770.2 (115.8)

a. To account for reporting delays, we excluded the last 9 days of data (i.e., data after February 8, 2020).

Table. S8. Estimation of the distribution of the time from first healthcare consultation to hospital admission.

Distribution ^a	All	Period of the epidemic	
		Period 1	Period 2
		Dec 24 - Jan 27	Jan 28 – Feb 17
Time from first healthcare consultation to hospital admission (days)			
Number of observations	1725	850	353
Empirical data	1.5 (95%CI:0.0-9.0)	1.4 (95%CI:0.0-9.0)	1.4 (95%CI:0.0-9.0)
Gamma			
mean (95%CI)	1.6 (95%CI:6e-04-8.1)	1.3 (95%CI:0.0-7.0)	1.5 (95%CI:0.0-8.2)
parameters	shape = 0.46, rate = 0.29	shape = 0.45, rate = 0.30	shape = 0.50, rate = 0.35
AIC (Δ AIC)	4063.5 (577.4)	1879.2 (325.9)	811.3 (97.5)
Weibull			
mean (95%CI)	1.6 (95%CI:0.0- 9.8)	1.4 (95%CI:0.0-8.7)	1.5 (95%CI:0.0-9.3)
parameters	scale = 0.95, shape = 0.58	scale = 0.87, shape = 0.57	scale = 0.95, shape = 0.61
AIC (Δ AIC)	3874.3 (388.2)	1772.1 (218.8)	781.7 (67.9)
Lognormal			
mean (95%CI)	1.8 (95%CI:0.0-10.9)	1.5 (95%CI:0.0-10.5)	1.5 (95%CI:0.0-8.8)
parameters	meanlog = -0.94, sdlog = 1.71	meanlog = -1.03, sdlog = 1.69	meanlog = -0.91, sdlog = 1.65
AIC(Δ AIC)	3486.1 (reference)	1553.3 (reference)	713.8 (reference)

a. To account for reporting delays, we excluded the last 9 days of data (i.e., data after February 8, 2020).

Table. S9. Estimation of the distribution of the time from symptom onset to official reporting.

Distribution ^a	All	Period of the epidemic	
		Period 1 Dec 24 - Jan 27	Period 2 Jan 28 – Feb 17
		Time from symptom onset to official reporting (days)	
Number of observations	5024	2727	2079
Empirical data	7.4 (95% CI:1.0-18.0)	8.9 (95% CI:2.0-19.8)	5.4 (95% CI:1.0-12.0)
Gamma			
mean (95%CI)	7.3 (95% CI:1.4-18.8)	8.8 (95% CI:2.3-19.2)	5.3 (95% CI:1.2-13.1)
parameters	shape = 2.72, rate = 0.37	shape = 3.72, rate = 0.42	shape = 3.18, rate = 0.59
AIC (Δ AIC)	27954.2 (reference)	15552.1 (reference)	10038.7 (reference)
Weibull			
mean (95%CI)	7.5 (95% CI:1.1-17.6)	8.9 (95% CI:1.4-18.7)	5.4 (95% CI:0.9-11.7)
parameters	scale = 8.29, shape = 1.75	scale = 10.05, shape = 2.09	scale = 6.10, shape = 1.95
AIC (Δ AIC)	28054.8 (100.6)	15585.2 (33.1)	10040.6 (1.9)
Lognormal			
mean (95%CI)	7.5 (95% CI:1.7-21.9)	9.1 (95% CI:2.4-24.2)	5.5 (95% CI:1.2-15.0)
parameters	meanlog = 1.80, sdlog = 0.68	meanlog = 2.04, sdlog = 0.57	meanlog = 1.52, sdlog = 0.63
AIC (Δ AIC)	28447.6 (493.4)	15806.4 (254.3)	10276.9 (238.2)

a. To account for reporting delays, we excluded the last 9 days of data (i.e., data after February 8, 2020).

Incubation period

Estimation of the incubation period was based on information about the likely exposure of confirmed COVID-19 cases. Exposure was ascertained through prospective contact tracing of epidemiological links for cases with no history of travel to Wuhan/Hubei. The exposure information was provided in the form of a time interval bounded by the dates of the first and last possible exposure. The dataset contained information on both the exposure date(s) and the date of symptom onset for 49 confirmed cases belonging to 37 clusters (defined as a group of confirmed cases identified through contact tracing of an index case and linked through transmission events). We estimated the distribution of left-, right-, and interval-censored exposure data by using maximum likelihood and compared three distributions (Weibull, gamma, and lognormal)⁷. If the information was missing on both start and end date of exposure, or on the date of symptoms, observations were excluded from the analysis. The goodness of fit was assessed using Akaike information criterion (AIC). The data used in this analysis are reported in Tab. S10.

We found that the best fit was obtained by using a Lognormal distribution (see Tab. S11). The best-fit cumulative density function is shown in Fig. S3.

Table S10. Raw data for COVID-19 used to estimate the incubation period.

No.	Age	Sex	Start date of exposure	End date of exposure	Date of symptom onset	Source
1	43	M	1/11/2020	1/17/2020	1/18/2020	https://weibo.com/2803301701/IqO22r0Ko?type=comment#_rnd1581906559095
2	50	F	1/10/2020	1/12/2020	1/14/2020	https://www.thepaper.cn/newsDetail_forward_5611242
3	32	F	1/12/2020	1/14/2020	1/16/2020	http://sxjw.sshaanxi.gov.cn/art/2020/1/23/art_9_67371.html
4	45	M	1/10/2020		1/23/2020	https://baijiahao.baidu.com/s?id=1656854142343599965&wfr=spider&for=pc
5	47	F	1/10/2020		1/14/2020	https://baijiahao.baidu.com/s?id=1656854142343599965&wfr=spider&for=pc
6	48	F	1/10/2020		1/25/2020	https://baijiahao.baidu.com/s?id=1656854142343599965&wfr=spider&for=pc
7	49	F	1/10/2020		1/21/2020	http://wjw.fy.gov.cn/content/detail/5e2fb0997f8b9a96218b457b.html
8	35	M	1/20/2020	1/23/2020	1/28/2020	https://m.weibo.cn/2656274875/4466058297975969
9	22	M	1/21/2020	1/21/2020	1/25/2020	http://wjw.hefei.gov.cn/ztzl/xxzbdgrdfyyqfk/xxfb/17720649.html
10	22	M	1/21/2020	1/21/2020	1/24/2020	http://wjw.hefei.gov.cn/ztzl/xxzbdgrdfyyqfk/xxfb/17720649.html

11	42	M	1/18/2020	1/18/2020	1/25/2020	http://wjw.yinchuan.gov.cn/wsjsdt/202001/t20200130_1935870.htm ; https://m.weibo.cn/2656274875/4466016555664404
12	51	M		1/22/2020	1/29/2020	https://baijiahao.baidu.com/s?id=1657207502497127865&wfr=spider&for=pc
13	50	F		1/22/2020	1/27/2020	https://baijiahao.baidu.com/s?id=1657207502497127865&wfr=spider&for=pc
14			1/13/2020	1/13/2020	1/18/2020	http://wst.hainan.gov.cn/swjw/rdzt/yqfk/202001/t20200129_2741749.html
15	17	M		1/23/2020	1/30/2020	http://ynswsjkw.yn.gov.cn/wjwWebsite/web/doc/UU158063778116456725
16	53	M	1/24/2020	2/2/2020	2/2/2020	https://baijiahao.baidu.com/s?id=1657578781147498004&wfr=spider&for=pc
17	52	M	1/25/2020		2/04/2020	https://mp.weixin.qq.com/s/kYJmS56Dua0VKRZUHK7dA
18	0.5	M	1/24/2020	1/27/2020	1/30/2020	http://wst.hainan.gov.cn/swjw/rdzt/yqfk/202002/t20200210_2746560.html
19	31	M	1/25/2020	1/25/2020	2/3/2020	https://baijiahao.baidu.com/s?id=1657944662511308880&wfr=spider&for=pc
20	52	F	1/21/2020	1/28/2020	1/29/2020	http://wst.hainan.gov.cn/swjw/rdzt/yqfk/202002/t20200211_2746860.html
21	21	M	1/24/2020	1/27/2020	2/5/2020	http://wst.hainan.gov.cn/swjw/rdzt/yqfk/202002/t20200211_2746860.html
22	77	F	1/25/2020	1/25/2020	1/28/2020	https://weibo.com/1623340585/lItF86sVJH?refer_flag=1001030103_&type=comment#_rnd1581434712870
23	80	M	1/25/2020	1/25/2020	1/31/2020	https://weibo.com/1623340585/lItF86sVJH?refer_flag=1001030103_&type=comment#_rnd1581434712870
24	47	F	1/21/2020		1/24/2020	https://mp.weixin.qq.com/s/9fFGIkR8zd0FHbcYS1wbmw
25	40	F	1/21/2020		1/27/2020	https://mp.weixin.qq.com/s/9fFGIkR8zd0FHbcYS1wbmw
26	63	F	1/21/2020	1/21/2020	1/29/2020	https://mp.weixin.qq.com/s/YlwUlgorpOS5eBEuaMqDTO
27	67	F	1/22/2020	1/30/2020	1/26/2020	http://www.zhuhai.gov.cn/xw/xwzx/zhyw/content/post_2465729.html
28	28	F	1/23/2020		2/6/2020	http://www.kfwjszw.gov.cn/news/wsxxw/20200208/8425.html
29	42	F	1/24/2020	1/24/2020	2/6/2020	http://wsjk.tj.gov.cn/art/2020/2/12/art_14_70808.html
30	50	M	1/21/2020		2/8/2020	http://www.gzhifpc.gov.cn/xwzx_500663/zwyw/202002/t20200214_48951997.html
31	44	F	1/21/2020		2/12/2020	http://www.gzhifpc.gov.cn/xwzx_500663/zwyw/202002/t20200214_48951998.html
32	34	F	1/17/2020		1/24/2020	https://weibo.com/5644848622/IrlasrDjV
33	26	M	1/24/2020	1/24/2020	2/02/2020	https://mp.weixin.qq.com/s/a0bXnh4IgA6mTvYh5wcw-g
34	40	M	1/19/2020	1/31/2020	1/29/2020	http://wjw.nmg.gov.cn/doc/2020/02/02/286109.shtml
35	57	M	1/21/2020	1/21/2020	1/27/2020	https://mp.weixin.qq.com/s/oF_2ZsQil2qzEsLhbMGekw
36	39	M	1/22/2020	1/22/2020	1/26/2020	http://wsjkw.weihai.gov.cn/art/2020/1/27/art_29393_2261638.html
37	57	F	1/13/2020		1/25/2020	http://wsjsw.qingdao.gov.cn/n28356065/n32563060/200126160634593133.htm
38	8	F	1/22/2020	1/29/2020	1/29/2020	http://jnmhc.jinan.gov.cn/art/2020/1/31/art_50366_3902975.html
39	14	M	1/22/2020	1/26/2020	1/27/2020	http://hzswsjkw.heze.gov.cn/art/2020/1/29/art_119712_8759936.html
40	59	F	1/14/2020	1/15/2020	1/19/2020	http://jnmhc.jinan.gov.cn/art/2020/2/1/art_50366_3906968.html
41	40	F	1/19/2020		2/6/2020	http://wjw.sz.gov.cn/yqxz/202002/t20200211_19008972.htm
42	10	F	1/19/2020		2/1/2020	http://wjw.sz.gov.cn/yqxz/202002/t20200211_19008972.htm
43	64	F	1/19/2020		1/29/2020	http://wjw.sz.gov.cn/yqxz/202002/t20200214_19012975.htm
44	42	M	1/13/2020	1/14/2020	1/17/2020	http://nx.people.com.cn/n2/2020/0128/c192493-33747564.html
45	61	F	1/18/2020	1/25/2020	1/24/2020	http://nx.people.com.cn/n2/2020/0128/c192493-33747564.html
46	33	F	1/22/2020		2/4/2020	https://opendata.sz.gov.cn/
47	2	M	1/24/2020		2/5/2020	https://opendata.sz.gov.cn/
48	62	F		1/15/2020	1/19/2020	https://www.sohu.com/a/370106521_161795
49	63	F	1/4/2020		1/8/2020	https://opendata.sz.gov.cn/

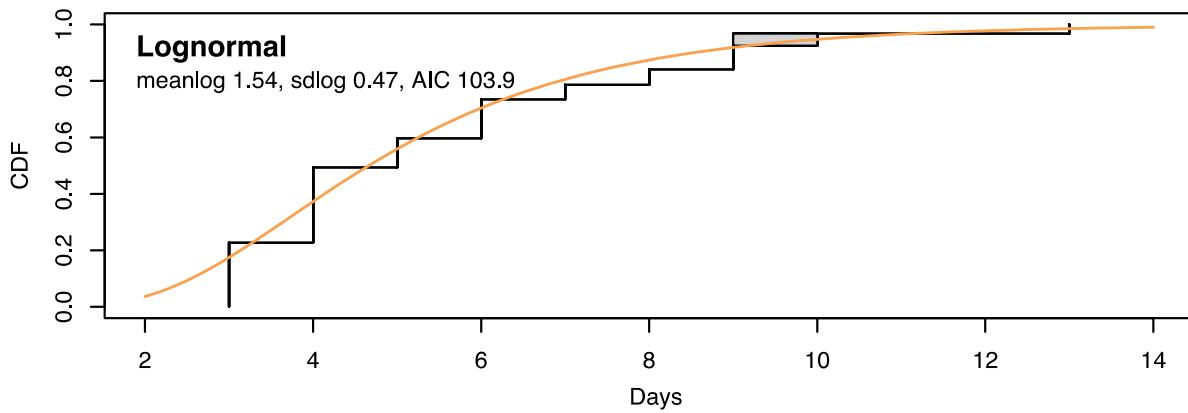


Figure. S3. Cumulative density function of the lognormal distribution that best fits the incubation period data. Empirical and estimated cumulative distribution functions are plotted by using the constrained Newton method⁸ by computing nonparametric maximum likelihoods for survival functions. Grey rectangles represent areas where the empirical distribution function is not unique.

Table S11. Incubation period characteristics. Estimates based on the analysis of 37 clusters and 49 observations.

Distribution	Parameters mean (SD)	Mean (days)	95%CI (days)	AIC
Gamma	shape = 4.23 (1.28), rate = 0.81 (0.24)	5.2	1.5 - 11.3	104.9
Weibull	scale = 5.84 (0.56), shape = 2.03 (0.31)	5.2	1.0 - 10.9	106.8
Lognormal	meanlog = 1.54 (0.092), sdlog = 0.47 (0.072)	5.2	1.8 - 12.4	103.9

Serial interval

We estimated the serial interval by maximum likelihood, using dates of symptom onsets for consecutive generations of cases within clusters with known epidemiological links and no travel history to Wuhan/Hubei. We focused on transmission events that could be clearly identified, thus we omitted cases with several possible infectors. All the clusters used in this analysis are shown in Fig. S4 and the raw data are reported in Tab. S12.

As sensitivity analyses, we considered the possibility that, within a cluster, cases who develop symptoms 1 up to 3 days after the date of symptom onset of the index case may have been infected by an unidentified infector. Therefore, we estimated four distributions of the serial interval by censoring cluster data. It is important to note that we censored observations with delays shorter than a given threshold to limit bias that may be caused by possible incorrect classification of epidemiological links and result in oversampling of shorter time intervals. We fit a non-censored gamma distribution to the data as we do not assume that the true distribution of the serial interval must be over that given threshold.

The estimated serial intervals as well as the parameters of the best fitting gamma distributions are reported in Tab. S13. The fit of the gamma distribution to the empirical data is shown in Fig. S5.

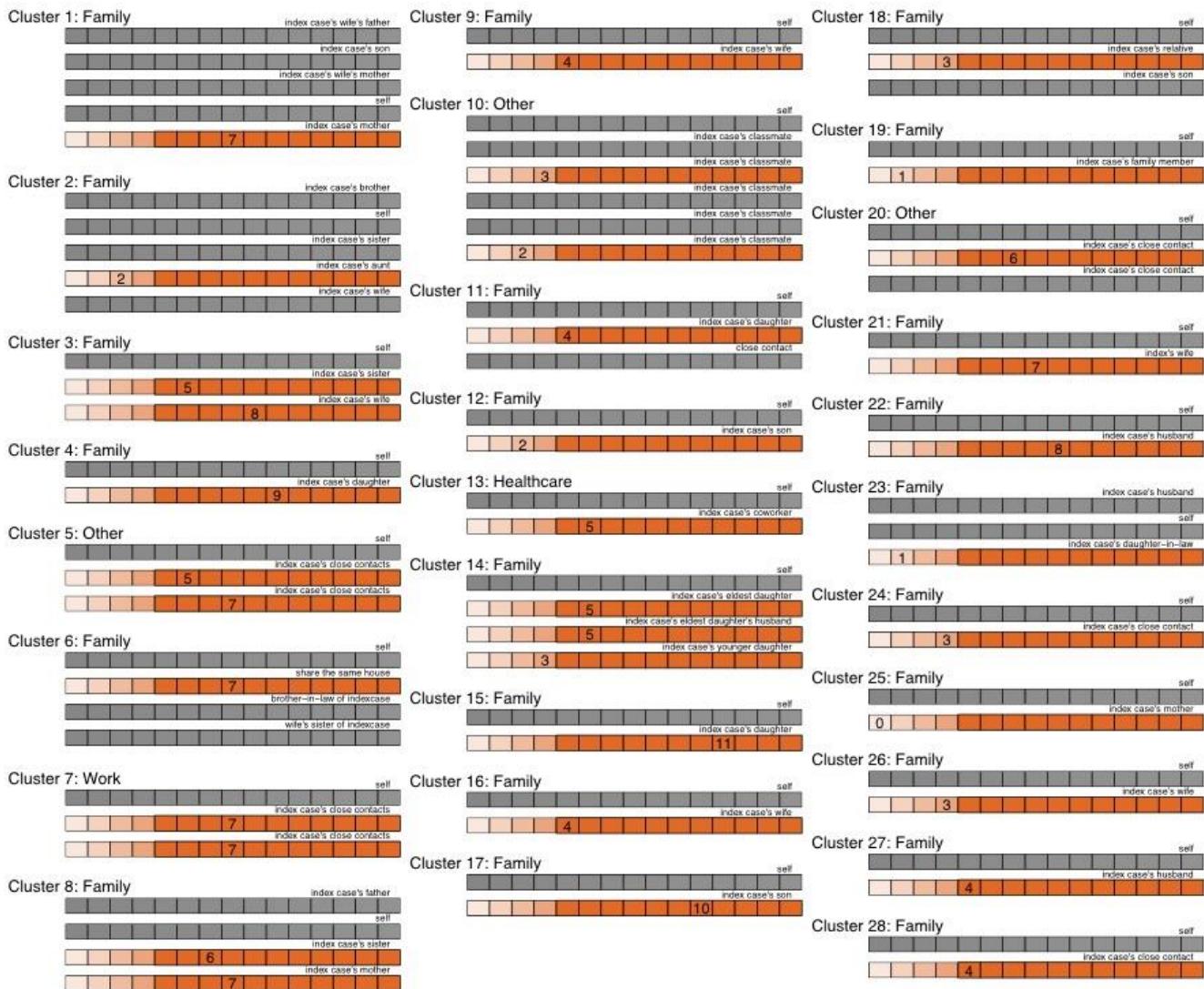


Figure S4. Time lag between the dates of symptom onset of index and secondary cases within clusters. The relation of each cluster member with the index case is reported above each case. The type of cluster (family, health-care, work, and other) is reported as well. Numbers in the boxes represent time lags expressed in days. Cases represented in grey correspond to the index cases or to individuals for whom it was not possible to establish a single infector through contact investigation.

Table S12. Raw data of clusters and cluster cases of COVID-19 used to estimate the serial interval.

Cluster id	Index case	Age	Sex	Date of symptom onset	Source
1	1	36	M	1/1/2020	http://wjw.sz.gov.cn/yqxx/202001/t20200124_18992235.htm
1	0	63	F	1/8/2020	http://wjw.sz.gov.cn/yqxx/202001/t20200124_18992235.htm
2	1	47	F	1/14/2020	https://baijiahao.baidu.com/s?id=1656854142343599965&wfr=spider&for=pc
2	0	57	F	1/25/2020	https://baijiahao.baidu.com/s?id=1656854142343599965&wfr=spider&for=pc
3	1	48	M	1/13/2020	http://wjw.fy.gov.cn/content/detail/5e2fb0997f8b9a96218b457b.html
3	0	47	F	1/18/2020	http://wjw.fy.gov.cn/content/detail/5e2fb0997f8b9a96218b457b.html
3	0	49	F	1/21/2020	http://wjw.fy.gov.cn/content/detail/5e2fb0997f8b9a96218b457b.html
4	1	50	M	1/13/2020	https://m.bjnews.com.cn/detail/157977300815379.html
4	0	17	F	1/22/2020	http://wjw.beijing.gov.cn/wjwh/ztzl/xxgzb/202001/t20200126_1621360.html
5	1	50	F	1/10/2020	https://mp.weixin.qq.com/s/xnhvY3AsirGspr-Ix8it7w
5	0	40	F	1/15/2020	https://mp.weixin.qq.com/s/xnhvY3AsirGspr-Ix8it7w
5	0	51	M	1/17/2020	https://mp.weixin.qq.com/s/xnhvY3AsirGspr-Ix8it7w
6	1	42	M	1/17/2020	http://wjw.yinchuan.gov.cn/wsjsdt/202001/t20200128_1934289.htm
6	0	61	F	1/24/2020	http://wjw.yinchuan.gov.cn/wsjsdt/202001/t20200128_1934289.htm
7	1	26	M	1/21/2020	http://jnmc.jinan.gov.cn/art/2020/1/26/art_50366_3884911.html
7	0	87	F	1/28/2020	http://ws.zibo.gov.cn/art/2020/1/29/art_814_1879462.html
7	0	51	F	1/28/2020	http://ws.zibo.gov.cn/art/2020/1/29/art_814_1879462.html
8	1	54	M	1/21/2020	http://wjw.anqing.gov.cn/13971952/96807087.html
8	0	51	F	1/25/2020	http://wjw.anqing.gov.cn/13971952/96900892.html
9	1	22	M	1/22/2020	http://wjw.hefei.gov.cn/ztzl/xxgzbgrdfyyqfk/xxfb/17720649.html
9	0	22	M	1/25/2020	http://wjw.hefei.gov.cn/ztzl/xxgzbgrdfyyqfk/xxfb/17720649.html
9	0	22	M	1/24/2020	http://wjw.hefei.gov.cn/ztzl/xxgzbgrdfyyqfk/xxfb/17720649.html
10	1	35	M	1/25/2020	http://jnmc.jinan.gov.cn/art/2020/1/30/art_50366_3898999.html
10	0	8	F	1/29/2020	http://jnmc.jinan.gov.cn/art/2020/1/31/art_50366_3902975.html
11	1	42	M	1/25/2020	http://hzswsjkw.heze.gov.cn/art/2020/1/27/art_119712_8758575.html
11	0	14	M	1/27/2020	http://hzswsjkw.heze.gov.cn/art/2020/1/29/art_119712_8759936.html
12	1			1/13/2020	http://wst.hainan.gov.cn/swjw/rdzt/yqfk/202001/20200129_2741749.html
12	0			1/18/2020	http://wst.hainan.gov.cn/swjw/rdzt/yqfk/202001/20200129_2741749.html
13	1		M	1/19/2020	https://mp.weixin.qq.com/s/3oKnPCg_PZPVU2pe0kcjgA
13	0		F	1/24/2020	https://mp.weixin.qq.com/s/3oKnPCg_PZPVU2pe0kcjgA
13	0		M	1/24/2020	https://mp.weixin.qq.com/s/3oKnPCg_PZPVU2pe0kcjgA
13	0		F	1/22/2020	https://mp.weixin.qq.com/s/3oKnPCg_PZPVU2pe0kcjgA
14	1	64	F	1/17/2020	http://wjw.sz.gov.cn/yqxx/202001/t20200130_18993707.htm
14	0	37	F	1/28/2020	http://wjw.sz.gov.cn/yqxx/202002/t20200205_19000593.htm
15	1	78	M	1/26/2020	http://wjw.sz.gov.cn/yqxx/202002/t20200202_18995441.htm
15	0	78	F	1/30/2020	http://wjw.sz.gov.cn/yqxx/202002/t20200205_19000593.htm
16	1	44	F	1/24/2020	http://wjw.sz.gov.cn/yqxx/202002/t20200205_18998915.htm
16	0	13	M	2/3/2020	http://wjw.sz.gov.cn/yqxx/202002/t20200206_19002824.htm
17	1	54	F	2/3/2020	https://mp.weixin.qq.com/s/bzci51HBkNHgn-8CwFKPA
17	0	52	M	2/4/2020	https://mp.weixin.qq.com/s/kYJmS56Dua0VKRZUHk7dA
18	1	53	M	1/30/2020	http://www.mm111.net/wsyq/p/386976.html
18	0	53	M	2/2/2020	https://mp.weixin.qq.com/s/Ew-D4qAouVeYuD66FRwfvw
19	1	32	M	1/28/2020	https://baijiahao.baidu.com/s?id=1657944662511308880&wfr=spider&for=pc
19	0	31	M	2/3/2020	https://baijiahao.baidu.com/s?id=1657944662511308880&wfr=spider&for=pc
20	1	69	M	1/23/2020	http://wjw.yinchuan.gov.cn/wsjsdt/202002/t20200201_1937487.htm
20	0	78	F	1/30/2020	http://wjw.yinchuan.gov.cn/wsjsdt/202002/t20200201_1937487.htm
21	1	47	F	1/19/2020	http://wjw.yinchuan.gov.cn/wsjsdt/202002/t20200201_1937487.htm
21	0	54	M	1/27/2020	http://wjw.yinchuan.gov.cn/wsjsdt/202002/t20200201_1937487.htm
22	1	59	F	1/24/2020	http://wjw.sz.gov.cn/yqxx/202002/t20200204_18997944.htm
22	0	34	F	1/25/2020	http://wjw.sz.gov.cn/yqxx/202002/t20200205_18998915.htm
23	1	47	F	1/24/2020	https://mp.weixin.qq.com/s/9FFGIkR8zd0FHbcYS1wbnw
23	0	40	F	1/27/2020	https://mp.weixin.qq.com/s/9FFGIkR8zd0FHbcYS1wbnw
24	1	37	F	1/26/2020	http://www.zhuhai.gov.cn/xw/xwzx/zhyw/content/post_2465729.html
24	0	67	F	1/26/2020	http://www.zhuhai.gov.cn/xw/xwzx/zhyw/content/post_2465729.html
25	1	41	M	1/26/2020	http://wjw.sz.gov.cn/yqxx/202002/t20200204_18997947.htm
25	0	40	F	1/29/2020	http://wjw.sz.gov.cn/yqxx/202002/t20200204_18997938.htm
26	1	65	F	1/28/2020	http://wjw.hechi.gov.cn/gggs/20200206-2392799.shtml
26	0	71	M	2/1/2020	http://wjw.hechi.gov.cn/gggs/20200206-2392799.shtml
27	1	37	F	1/30/2020	https://weibo.com/1959574931/ln9r70k8
27	0	36	M	2/3/2020	https://weibo.com/1959574931/ln9r70k8
28	1	26	M	1/17/2020	https://mp.weixin.qq.com/s/ojCDQAEhqzzw4Oloc70z4A
28	0	28	F	1/23/2020	https://mp.weixin.qq.com/s/ojCDQAEhqzzw4Oloc70z4A
28	0	51	F	1/24/2020	https://mp.weixin.qq.com/s/ojCDQAEhqzzw4Oloc70z4A

Table. S13. Estimated distributions of the serial interval given different censoring assumptions.

Delay between symptom onset of index case and secondary cases	Number of clusters	Number of observations (excluding index cases)	Serial interval (95%CI), empirical data	Serial interval (95%CI), estimated from the fit of a gamma distribution	Parameters of the gamma distribution (shape, rate)
Non censored*	28	35	5.0 days (0.9-10.1)	5.0 days (0.8-13.0)	2.39, 0.48
>0 days [#]	27	34	5.1 days (1.0-10.2)	5.1 days (1.3-11.6)	3.63, 0.71
>1 day	25	32	5.4 days (2.0-10.2)	5.4 days (1.8-10.9)	5.18, 0.96
>2 days	23	29	5.8 days (3.0-10.3)	5.8 days (2.4-10.7)	7.28, 1.26
>3 days	19	24	6.3 days (4.0-10.4)	6.3 days (3.2-10.5)	11.49, 1.81

* Considering all observations.

Result presented in the main text.

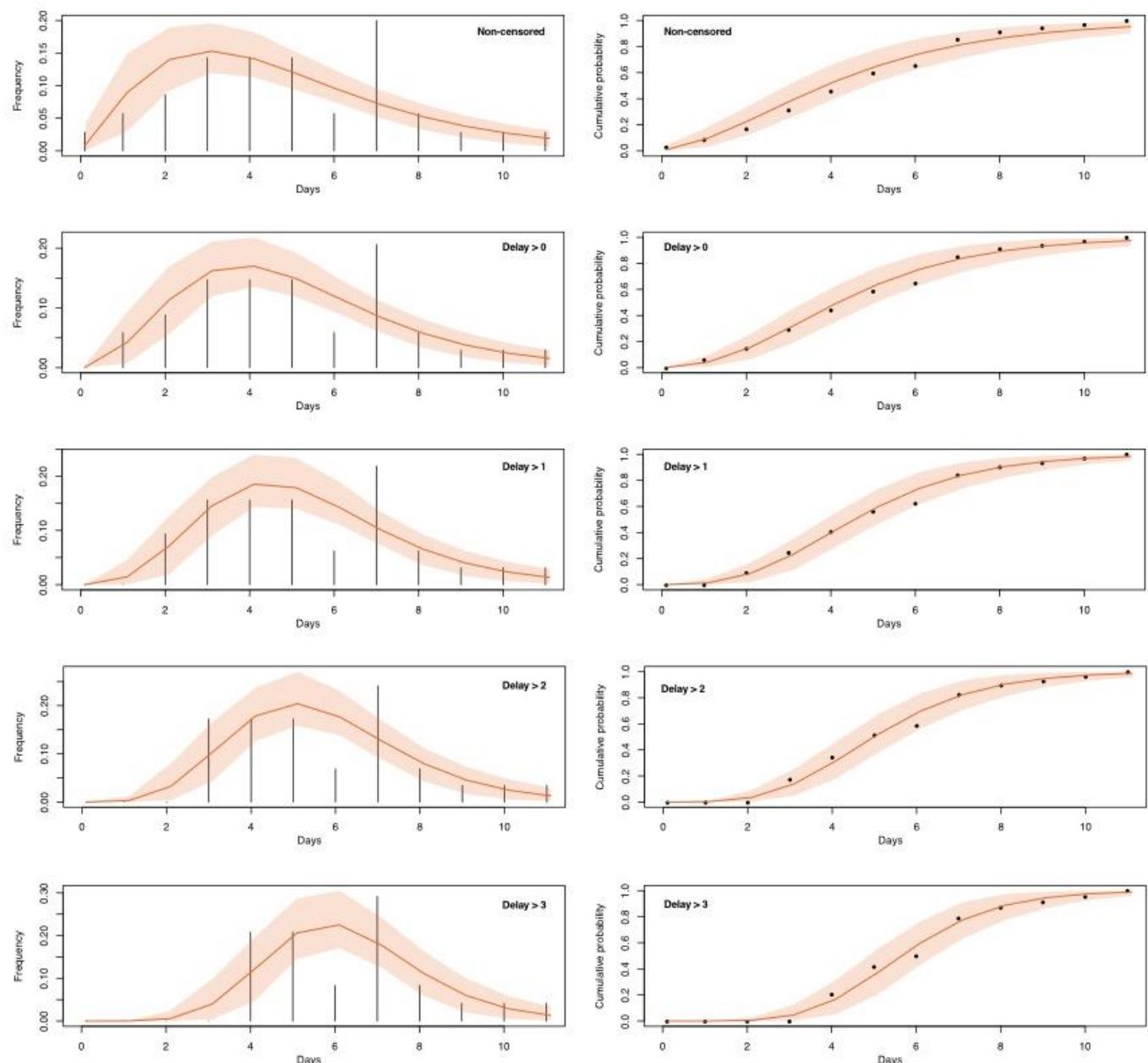


Figure. S5. Serial interval distribution (data, vertical lines) and fitted gamma distributions (mean, line; 95%CI, shaded area) by considering difference censoring of the data.

Reproduction number

The basic reproduction number R_0 represents the average number of secondary cases generated by a primary infector in a fully susceptible population. Broadly, when R_0 is larger than 1 the infection may spread in the population and the larger R_0 the larger the efforts required to control the epidemic. Once the number of susceptible individuals decline, the transmission potential of the disease at a given time t is measured in terms of the net reproduction number Rt . The net reproduction number is useful to track the effectiveness of control measures and other factors affecting the spread of the epidemic (e.g., the behavioral response of the population) over time. As soon as Rt falls below 1, the epidemic starts to decline.

To estimate Rt , we adjusted the methodology presented in references^{9, 10} to account for case importations. We assumed that the daily number of new cases (by date of symptom onset), including locally acquired infections $L(t)$, can be approximated by a Poisson distribution according to the equation

$$L(t) \sim \text{Pois}\left(R(t) \sum_{s=1}^t \varphi(s) C(t-s)\right)$$

where

- $C(t)$, with t from 0 to T , is the daily number of new cases, including locally acquired cases and importations, by date of symptom onset;
- $R(t)$ is the net reproduction number at time t ;
- $\varphi(s)$ is the distribution of the generation time (corresponding to the distribution of the serial interval) calculated at time s .

The likelihood \mathcal{L} of the observed time series of cases from day 1 to T conditional on $C(0)$ is thus given by

$$\mathcal{L} = \prod_{t=1}^T P\left(L(t); R(t) \sum_{s=1}^t \varphi(s) C(t-s)\right)$$

where $P(k; \lambda)$ is the probability mass function of a Poisson distribution (i.e., the probability of observing k events if these events occur with rate λ).

We used Metropolis-Hastings MCMC sampling to estimate the posterior distribution of $R(t)$. The Markov chains were run for 1,000,000 iterations, assuming non-informative prior distributions of $R(t)$ (flat distribution in the range (0-1000]). Convergence was checked by visual inspection by running multiple chains starting from different starting points. The code is freely available at <https://github.com/majelli/Rt>.

It should be noted that, when estimating $R(t)$, we excluded data for the last 9 days of the dataset to deal with possible incompleteness due to reporting delays. The choice of 9 days was motivated by the fact that in the period from January 28 to February 17, the 90th percentile of the distribution of the time from onset to reporting was 9.0 days in mainland China outside Hubei Province. We tested the robustness of this method by artificially right censoring all the data reported after January 28 and comparing the resulting estimates of $R(t)$ with those obtained by using the dataset up to February 17. It is important to mention that the developed method to estimate $R(t)$ does not take into consideration the possibility that an imported case may have already started to transmit the infection during her/his travel.

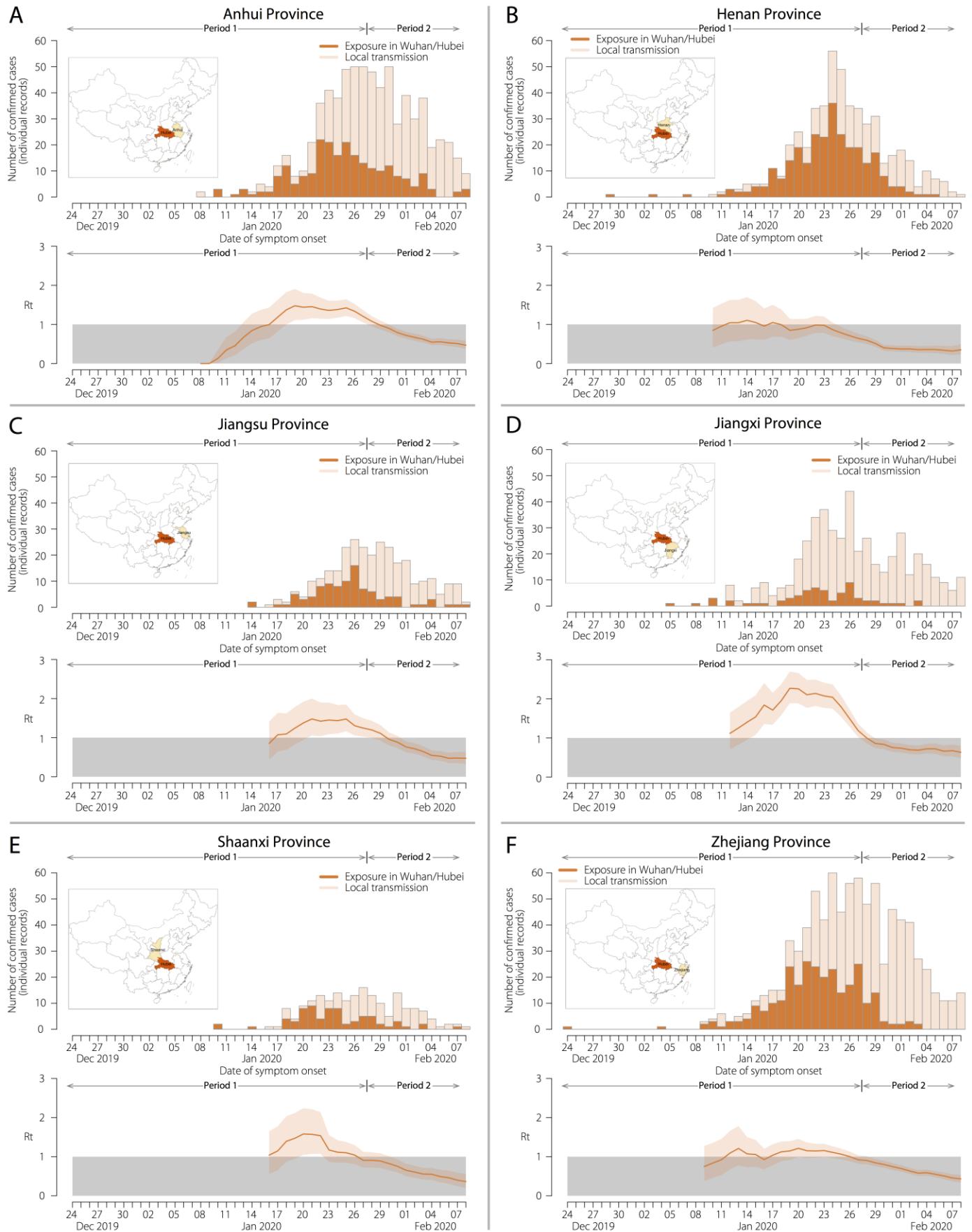


Figure. S6. A Top: Daily number of new cases (by date of symptom onset) in Anhui Province, stratified by cases with a travel history to Wuhan/Hubei and locally-acquired cases. **Bottom:** Estimated net reproduction number (R_t) over 4-day moving average by considering a mean serial interval of 5.1 days (95%CI: 1.3-11.6), as in the main text. We excluded data

after February 8, 2020 to account for reporting delay – we estimated that during period 2 of the epidemic, the 90th percentile of the distribution of the time from onset to reporting in mainland China outside Hubei Province was 9.0 days. B Same as A, but for Henan Province. C Same as A, but for Jiangsu Province. D Same as A, but for Jiangxi Province. E Same as A, but for Shaanxi. F Same as A, but for Zhejiang Province.

In the main text, we provide estimates of $R(t)$ for three locations where we have validated our individual records against the full official line lists compiled by local health authorities. Here, we selected six additional locations among the most affected provinces of mainland China (excluding Hubei Province) for which we had a representative sample (see Tab. S4 and Fig. S1). For these six locations, the time series of confirmed COVID-19 cases and the estimated net reproduction number are shown in Fig. S6. The epidemic follows highly different patterns in the different provinces ranging from primarily case importations and limited local transmission (e.g., Henan Province) to prolonged sustained local transmission with $R(t)$ larger than 2 (e.g., Jiangxi Province).

The case definition changed over the course of the epidemic (see Sec. Case definition and surveillance). This may have resulted in detection of cases with different clinical severity, especially after January 27, 2020 when the 4th version of case definition was broadened to include milder cases. To illustrate to what extent a possible increase in reporting rate after January 27 could affect estimation of Rt , we designed the following analysis. We assumed that the broadening of the case definition on January 27 could hypothetically inflate reported cases by 30%. Hence, in a counterfactual scenario where reporting had not changed, we would have observed fewer cases, more specifically 0.7 of the actual number of cases reported starting January 28 (the day after the change in case definition). Hence, we down sampled (70%) the number of cases after Jan. 28 accordingly and re-estimated Rt based on the simulated dataset.

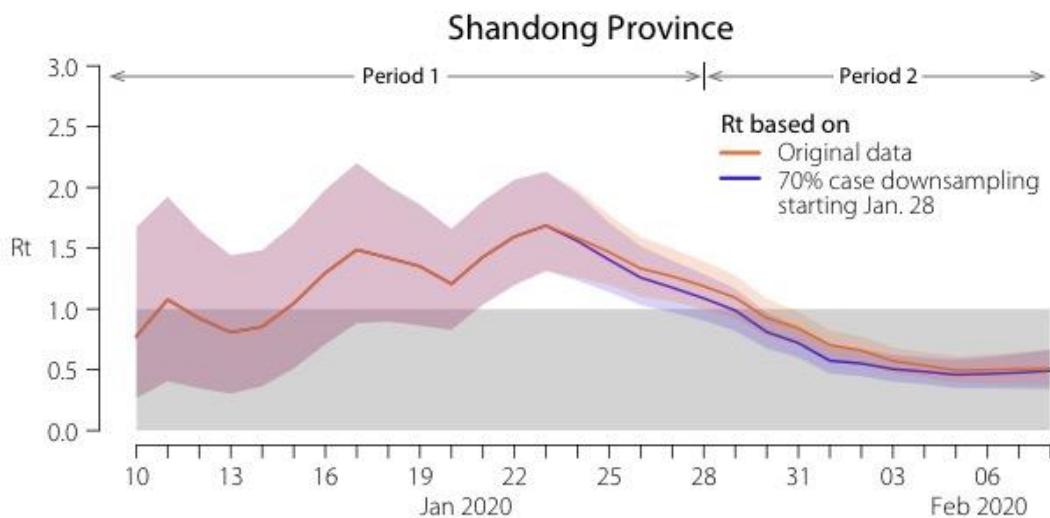


Figure. S7. Estimated net reproduction number (Rt) over 4-day moving average by considering a mean serial interval of 5.1 days (95%CI: 1.3-11.6) in Shandong Province. We analyzed the original data and a hypothetical scenario where cases are down sampled by 30% starting January 28.

Figure S7 shows that our estimates of Rt are robust to a 30% change in the reporting rate starting January 28, 2020. Moreover, the analysis shows that estimates based on the original data can be considered as an upper estimate of Rt . However, it is important to

stress that there is no evidence supporting the choice of 30%. Such value was chosen only to illustrate the robustness of our estimates of R_t .

Timeline and description of implemented control measures

The main control measures implemented in China are summarized below and are illustrated in a timeline of key events in Fig. S8 and Tab. S14. These data represent the national level response and responses in the most affected area (Hubei Province) and other 9 areas of focus in this study.

Epidemiological investigation and close contact management: Intense epidemiological investigations were being carried out for cases, clusters, fever patients, and close contacts to identify the source of infection and implement targeted control measures, such as contact tracing. Each location implemented a similar management under the leadership of national, provincial, prefecture, county/district authorities and with the community.

Social distancing, traffic restrictions, personnel quarantine, and environmental/general sanitation: At the national level, the State Council extended the Spring Festival holiday to Feb. 2, 2020. All areas in China cancelled or suspended public activities such as sport events, library, cinema, theatre, and all of the schools and colleges postponed reopening after the holiday. Resumption of labor and rehabilitation was forbidden before Feb. 9 of 2020 in all areas (except for Sichuan Province), and the date was further extended to Feb.13 for Hubei Province. As part of these social distancing measures, the government encouraged people to stay at home; discouraged mass gatherings; cancelled or postponed large public events. As a consequence of all of these measures, community life was very reduced. The transportation Departments set up thousands of health and quarantine stations in national service areas, and in entrances and exits of airport, train, high railway and bus stations. Hubei Province adopted the most stringent traffic control measures, including full suspension of urban public transport, including subway, ferry and long-distance passenger transport. Wuhan has been locked down since Jan. 23, 2020. Since Jan.27, 2020, all prefecture cities in Hubei have been locked down (except Shennongjia). Every citizen has to wear a mask in public. Different provinces initiated control measures at different times, but all provinces had specific control measures in place by the end of January, 2020. By 29 January, all provinces across China had launched the highest level of response for major public health emergencies. Details on key time events and main province/ municipality-specific control measures are showed in Fig. S8 and Tab. S14.

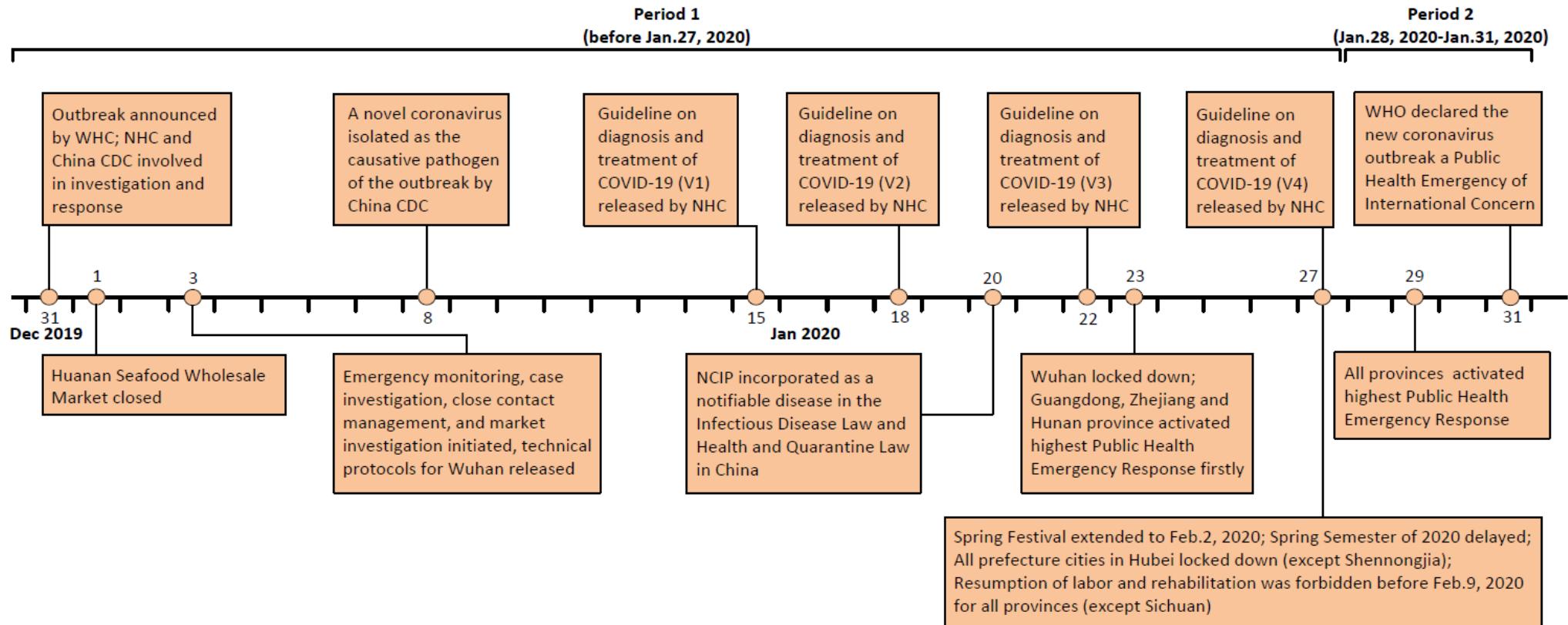


Figure S8. Timeline of key events in China in the first month after the start of COVID-19 outbreak, as announced by the Wuhan Health Commission. WHC: Wuhan Health Commission, NHC: National Health Commission of the People's Republic of China, China CDC: Chinese Center for Disease Control and Prevention, WHO: World Health Organization, NCIP: novel coronavirus infected pneumonia.

Table S14. Main control measures on traffic restrictions/social distancing/personnel quarantine in 10 provinces of China.

Location	Type	Subtype	Intervention	Starting date	Source
Hubei					
	Traffic restrictions	from/to Wuhan travel ban	all travel to Wuhan ban	2020/1/23	http://www.hubei.gov.cn/zhuanti/2020/gzxxgzbz/xxtb/202001/t20200123_2014602.shtml
	Traffic restrictions	inner-province/city travel ban	all cities locked down (except Shennongjia)	2020/1/23-2020/1/27	https://www.thepaper.cn/newsDetail_forward_5671283
	Social distancing	activity ban	group tours ban	2020/1/23	http://www.hubei.gov.cn/zhuanti/2020/gzxxgzbz/xxtb/202001/t20200123_2014602.shtml
	Social distancing	workplace closure	Spring Festival holiday extended to Feb. 13	2020/1/31	http://www.hubei.gov.cn/zhuanti/2020/gzxxgzbz/xxtb/202002/t20200201_2017564.shtml
Wuhan-specific (Hubei Province)					
	Traffic restrictions	from/to Wuhan travel ban	city lock down	2020/1/23	http://www.wuhan.gov.cn/hbgovinfo/zwgk_8265/tzgg/202001/t20200123_304065.html
	Traffic restrictions	inner-province/city travel limitation	taxi limitation	2020/1/24	https://baijiahao.baidu.com/s?id=1656567890994404313&wfr=spider&for=pc
	Traffic restrictions	inner-province/city travel limitation	partial road closure	2020/1/25	http://www.wuhan.gov.cn/2019_web/whyw/202001/t20200125_304153.html
	Traffic restrictions	inner-province/city travel ban	motor vehicle ban	2020/1/26	http://www.wuhan.gov.cn/2019_web/whyw/202001/t20200127_304182.html
	Personnel quarantine	cross-examination	health surveillance on all residents	2020/1/27	http://www.wuhan.gov.cn/2019_web/whyw/202001/t20200128_304207.html
Shandong					
	Traffic restrictions	inner-province/city travel ban	interprovincial, interurban and within-city bus travel ban	2020/1/26	http://jtt.shandong.gov.cn/art/2020/1/31/art_12549_8762529.html
	Social distancing	activity ban	public entertainment activities ban	2020/1/24	http://whhly.shandong.gov.cn/art/2020/2/2/art_100579_8765972.html?xxgkhid=1
	Social distancing	activity ban	group tours ban	2020/1/24	http://whhly.shandong.gov.cn/art/2020/1/26/art_68375_8759437.html
	Social distancing	activity ban	mass rally ban	2020/1/23	http://wsjkw.shandong.gov.cn/ztzl/rdzt/qlzhfkzg/mtsc/202001/t20200129_2512394.html
	Personnel quarantine	temperature measurement	comprehensive temperature measurement in the transportation system	2020/1/26	http://jtt.shandong.gov.cn/art/2020/1/27/art_12549_8762547.html
Guangdong					
	Traffic restrictions	from/to Wuhan travel ban	interprovincial and interurban bus travel from/ to Wuhan ban	2020/1/25	http://www.gd.gov.cn/gdywdt/zwzt/yqfk/gdzxd/content/post_2879193.html
	Traffic restrictions	inter-province travel ban	all travel ban	2020/1/26	http://td.gd.gov.cn/zcwj_n/tzgg/content/post_2882742.html
	Traffic restrictions	from/ to Hubei travel ban	interprovincial bus travel from/ to Hubei ban	2020/1/29	http://td.gd.gov.cn/zcwj_n/tzgg/content/post_2880563.html
	Social distancing	activity ban	mass rally ban	2020/1/23	http://com.gd.gov.cn/zwgk/gggs/content/post_2879065.html
	Social distancing	activity ban	closure of tourist attractions	2020/1/23	http://www.gd.gov.cn/gdywdt/zwzt/yqfk/gdzxd/content/post_2881143.html
	Social distancing	activity ban	closed management on community	2020/1/25	http://www.gd.gov.cn/gdywdt/zwzt/yqfk/gdzxd/content/post_2879198.html
	Personnel quarantine	cross-examination	health surveillance on all residents	2020/1/31	http://www.gd.gov.cn/gdywdt/zwzt/yqfk/gdzxd/content/post_2881035.html
	Personnel quarantine	temperature measurement	temperature measurement at provincial boundary	2020/1/25	http://www.gd.gov.cn/gdywdt/zwzt/yqfk/gdzxd/content/post_2879193.html
	Personnel quarantine	temperature measurement	comprehensive temperature measurement in the transportation system	2020/1/21	http://www.gd.gov.cn/gdywdt/zwzt/yqfk/gdzxd/content/post_2878187.html
Shenzhen-specific (Guangdong Province)					
	Social distancing	activity ban	group tours ban	2020/1/24	http://www.sz.gov.cn/cn/xxgk/zfxxgj/tzgg/content/post_6733143.html

	Social distancing	activity ban	mass rally ban	2020/1/24	http://www.sz.gov.cn/cn/xxgk/zfxxgj/tzgg/content/post_6733143.html
Hunan					
	Traffic restrictions	inter-province travel ban	interprovincial and interurban bus travel ban	2020/1/31	http://jtt.hunan.gov.cn/jtt/xxgk/gzdt/jtywl/202001/t20200124_11164135.html
	Traffic restrictions	inter-province travel ban	all travel ban	2020/1/28	http://whhlyt.hunan.gov.cn/whhlyt/xxgkml/tzgg/202001/t20200129_11165547.html
	Social distancing	activity ban	group tours ban	2020/1/24	http://whhlyt.hunan.gov.cn/whhlyt/news/wlyw/202001/t20200129_11165540.html
	Social distancing	activity ban	public entertainment activities ban	2020/1/27	http://www.hunan.gov.cn/hnszf/hnyw/sy/hnyw1/202001/t20200130_11165850.html
	Personnel quarantine	cross-examination	health surveillance on all residents	2020/1/30	http://jtt.hunan.gov.cn/jtt/xxgk/gzdt/jtywl/202001/t20200124_11164135.html
	Personnel quarantine	temperature measurement	comprehensive temperature measurement in the transportation system	2020/1/22	http://jtt.hunan.gov.cn/jtt/xxgk/gzdt/jtywl/202001/t20200131_11166724.html
Shaanxi					
	Traffic restrictions	from/to Wuhan travel ban	interprovincial and interurban bus travel from/ to Wuhan ban	2020/1/26	http://jtyst.shaanxi.gov.cn/show/251413.html
	Traffic restrictions	inter-province travel ban	interprovincial and interurban bus travel ban	2020/1/27	http://jtyst.shaanxi.gov.cn/show/251413.html
	Social distancing	activity ban	closed management on pension institutions	2020/1/26	https://new.qq.com/omn/20200126/20200126A05LEX00.html
	Personnel quarantine	temperature measurement	temperature measurement at airport	2020/1/25	http://www.shaanxi.gov.cn/sxxw/sxyw/159582.htm
Anhui					
	Traffic restrictions	from/to Wuhan travel ban	Flight/interprovincial bus travel from/ to Wuhan ban	2020/1/22	http://www.ah.gov.cn/zwyw/ztzl/fkxxgzbgrdfyyq/fkdt/8255951.html
	Traffic restrictions	inter-province/city travel ban	interprovincial and interurban bus travel ban	2020/1/28	http://jtt.ah.gov.cn/zt/fyfk/tzgg/48512772.html
	Personnel quarantine	temperature measurement	temperature measurement in the transportation system	2020/1/27	http://www.ah.gov.cn/zwyw/ztzl/fkxxgzbgrdfyyq/fkdt/8257091.html
Jiangxi					
	Traffic restrictions	inter-province/city travel ban	interprovincial bus travel ban	2020/1/17	https://wap.eastmoney.com/news/info/detail/202002171386656892
	Social distancing	activity ban	public place closure/ mass rally ban	2020/1/25	http://www.jxhfp.gov.cn/doc/2020/01/26/137685.shtml
	Personnel quarantine	temperature measurement	comprehensive temperature measurement in the transportation system	2020/1/25	http://www.jxhfp.gov.cn/doc/2020/01/26/137685.shtml
Henan					
	Traffic restrictions	inter-province/city travel ban	interprovincial and interurban bus /waterway travel ban	2020/1/27	https://m.henan.gov.cn/2020/01-28/1285382.html
	Traffic restrictions	from/to Wuhan travel ban	interprovincial bus and waterway travel from/ to Wuhan ban	2020/1/27	https://m.henan.gov.cn/2020/01-28/1285382.html
	Social distancing	activity ban	mass rally ban	2020/1/24	https://m.henan.gov.cn/2020/01-24/1285003.html
	Personnel quarantine	temperature measurement	comprehensive temperature measurement in the transportation system	2020/1/27	https://m.henan.gov.cn/2020/01-28/1285382.html
Zhejiang					
	Traffic restrictions	inter-province/city travel ban	interprovincial bus/ waterway travel ban	2020/1/27	https://mp.weixin.qq.com/s/MovtA0Ik7ypsED3ce_iw5g
	Social distancing	activity ban	mass rally ban	2020/1/23	http://www.zhejiang.gov.cn/art/2020/1/24/art_1554467_41855124.html
	Personnel quarantine	temperature measurement	temperature measurement in the transportation system	2020/1/23	http://www.zhejiang.gov.cn/art/2020/1/24/art_1554467_41855124.html
Jiangsu					

Traffic restrictions	inter-province/city travel ban	interprovincial bus travel ban	2020/1/27	http://www.jiangsu.gov.cn/art/2020/2/2/art_60085_8960232.html
Traffic restrictions	from/ to Hubei travel ban	train and flight travel from/ to Hubei ban	2020/1/27	http://www.jiangsu.gov.cn/art/2020/2/2/art_60085_8960232.html
Traffic restrictions	from/to Wuhan travel ban	interprovincial bus and waterway travel from/ to Wuhan ban	2020/1/21	https://mp.weixin.qq.com/s/x-BTzXbecYg5LZieVfYpHQ
Personnel quarantine	temperature measurement	temperature measurement in the transportation system	2020/1/27	http://www.jiangsu.gov.cn/art/2020/2/2/art_60085_8960232.html

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